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**Sci-Tech News**

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# SCI-TECH NEWS

The Official Bulletin for the Engineering, Materials Research and Manufacturing and Science/Technology Divisions and the Aerospace Section of the Engineering Division of the Special Libraries Association.

**Volume 54, Number 3** **August 2000**


*Ariſtippus Philoſophus Socraticus, naufragio cum ejectus ad Rhodienſium litus animadvertiſſet Geometrica ſchemata deſcripta, exclamaviſſe ad comites ita dicitur,* Bene ſperemus, Hominum enim veſtigia video. *Vitruv. Architect. lib. 6. Præf.*

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Special Libraries Association



Vitruvius, the ancient Roman author, in his book *On Architecture*, related a story to demonstrate the unique character of mathematics. The philosopher Aristippus had been shipwrecked on the shore at Rhodes, when he observed geometrical diagrams drawn in the sand. He shouted to his shipmates: "There is hope for us; I see the footprints of humans!" The parable was illustrated on the frontispiece to the *Opera* of Archimedes, published in Oxford in 1792, which is shown on the cover of this issue. The geometrical diagrams are appropriately Archimedean, taken from his treatises *On Conoids*, and *On Spirals*. Interestingly, this same engraving had been used earlier as a frontispiece for a 1703 edition of Euclid, and a 1710 edition of Apollonius, and in each case the geometrical diagrams were altered, with triangles drawn in the sand for the Euclid work, and conic sections for that of Apollonius. (Photo and caption courtesy of the Linda Hall Library of Science, Engineering, and Technology, Kansas City, Missouri.)

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# FROM THE EDITOR

"Possible. Possible. Nothing's impossible." These are the first words we hear from Phillipe "The Mouse" Gaston in the movie *Ladyhawke.* At the time, he is trying to escape from an inescapable prison by squeezing through a sewer. He succeeds and goes on to redeem himself and play a major role in the rescue of both the hero and heroine in this historical romance.

Why was I hearing these lines as I sat in my office, thinking about the June conference and this issue's editorial? They came to mind as I was reviewing the wealth of information that I had to squeeze into this issue. As I read the summaries of programs and looked at pictures of tours, business meetings, speakers, and work sessions, I thought of the phenomenal amount of work that went into the planning of the Philadelphia conference. The logistics of planning all those meeting rooms and scheduling the correct equipment is staggering. Deciding on session topics and finding the wonderful speakers can look daunting when the process begins. Yet, in June it all came together beautifully.

Back to the word "impossible." The Sci-Tech Division has a wonderful award that they give out at the annual business meeting. The Impossible Award states, "If you don't try the Impossible, you'll never know what the Possible is." Good advice—and the award was deservedly given to Ann Koopman, chair of the Program Committee of the Sci-Tech Division. She and her fellow conference planners put together a wonderful collection of programs that made selecting where to go very difficult. Humbly, I thank the committee for awarding me one for editing *Sci-Tech News.* I must say with the help, encouragement, and support I've received from so many, this is not an impossible task at all—but thanks nonetheless!

I hope you all enjoyed the conference as much as I did. I've already stated that I love Philadelphia. I was able to visit a few bookstores, ate wonderful food, visited Longwood Gardens, and walked in a very walkable city. It was fun to walk with people who had never visited the city before and see their faces. The architecture, parks, and museums earned praise. One person pointed out something that I had overlooked all these years—the fascinating ironwork and stonework on and around doorways. I've passed many of them dozens of times with only cursory looks. No more! There is always something new to learn, something to pique our interests. But then, we're librarians—continual learning and curiosity are some of our trademarks.

This issue is our conference review. For those of you who couldn't make it to Philly, there are program summaries, pictures, meeting minutes, and a list of the divisions' new officers. You will also note the new chairs have taken charge; this issue marks their first "From the Chair" messages.

I am very happy to state that my ads for writers have yielded some fruit. We will be starting a Web site review column soon. However, I'm still looking for writers for articles, and I'd like to start a column that summarizes or reviews other conferences and conference programs. Think about it and let me know what you would like to write.

In this issue, we also start a "Dates to Keep in Mind" box. I will try to highlight deadlines that

are looming. If you're like me, you might just glance at your publications when they come in and then read them when you have the time. Well, we all work on a tight schedule, and this box can remind us about important dates before it is too late. Look for it on the editorial page each issue.

Enjoy the rest of the summer. Keep in touch. I look forward to hearing from you on ways to improve *STN,* topics you would like to see covered, and articles you would like to write.

**BONNIE OSIF**

**Dates to Keep in Mind**

| | | |
|---|---|---|
| Global 2000 Award | Sept. 1, 2000 | p. 33 |
| Aerospace Membership Chair Volunteer | Sept. 15, 2000 | p. 13 |
| Vote on changes to George Mandel Award | Sept. 30, 2000 | p. 13 |
| International Sci-Tech Award | Jan. 1, 2001 | p. 35 |

| Publication Dates | Deadline for Copy |
|---|---|
| February | January 15 |
| May | April 3 |
| August | July 5 |
| November | October 5 |

Contributors are urged to send the Editor a printed copy of their materials as well as a diskette in WordPerfect or MS-Word format, if possible.
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ue? Génie Chimique? Génie Chimique? Génie Chimique?
mica? Ingeniería Quimica? Ingeniería Quimica? Ingeniería
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# ENGINEERING DIVISION

The objectives of the Engineering Division are to provide an association for those having an interest in library and information science as they apply to engineering and the physical sciences and to promote the use of materials and knowledge for the benefit of libraries and other educational organizations

## FROM THE CHAIR

**MARILYN REDMOND**

I look forward to this year as your chair with a great deal of excitement. We've got a great group of officers and committee chairs assembled as you can see from the list at the back of the issue. There's a nice balance of experienced hands who know the ropes and new people, and everyone is full of enthusiasm and good ideas.

My goal for this year is to increase communication throughout the division and to make us all highly aware of what the Engineering Division has to offer and who are the colleagues that you can network with and call on. We all know that in these times of tight budgets, limited collections, shrinking staff, and increasing competition from the illusion that "it's all on the Web, and it's all free" that we really need to help each other with ideas, moral support, even copies of articles on occasion.

The first step in this direction is a request for all Engineering Division members to sign up for SLA-ENG, the Engineering Division discussion list which is graciously hosted for us at IEE. To subscribe, send a message to Majordomo@iee.org.uk with this line in the body of the text: Subscribe sla-eng *your_email* and once you have subscribed, contribute. It would make my day, if the discussion list became so active that people complained about the number of messages. Whether or not you subscribe, please get in the habit of checking the Engineering Web page (http://www.sla.org/division/deng/engdiv.html) on a regular basis for news.

Plans are already underway for the next annual conference in San Antonio, and I'll talk more about that in the future. Right now, if anyone has ideas for good programs or CE courses in the future, please let Pat Parker, the chair-elect know. She'll be doing the program planning for 2002, and I know from experience that she will appreciate your suggestions.

*1999/2000 INSPEC Travel Stipend Award Winning Essay*

## How Library Education Must Change to Meet the Challenge of New or Emerging Technologies

by Donna Marie Braque

Library education's reservation to adapt to meet the challenge of new and emerging technologies has failed its students and the profession by not preparing its graduates for technology-rich careers. Several reasons have been given for why this has occurred such as, learning technology skills is not Masters level work, the rapid change of technology make skills obsolete, and the varied levels of computer literacy held by incoming LIS students make technology courses difficult to implement. However, this logic must be reexamined. Skills and knowledge pertaining to technologies are no longer marketable novelties on a graduate's resume. They are requirements and core competencies of the profession. Library education can meet this challenge with the implementation of computer literacy entrance requirements, technology lab courses, and required field experiences.

Librarianship is comprised of many who chose this profession as a second career, or who joined it decades after completing their first degree. Thus, students enter library school with varied levels of computer literacy. For instance, some have computer science degrees, while others have yet to send a single e-mail. This makes teaching a technology course nearly impossible. Those students who are advanced are retained from learning further by the teacher's need to instruct others in basic computing skills. Library education can alleviate this scenario by requiring a computer literacy entrance exam before allowing a student into the program. Students who fail the exam would be required to take an introductory computer course before their second semester. This will enable library educators to focus on teaching advanced and emerging technologies that are necessary for information professionals to be successful.

Library education has been hesitant to implement teaching of practical skills into its curriculum. Since understanding technologies is greatly dependent on hands-on and practical learning, library education's stand on this issue is problematic. Teaching of skills, it has been said, would compete with the teaching of theory in the classroom and would lead to questioning of whether the ML(I)S is a professional degree. However, if librarians with ML(I)S degrees are entering the workforce without adequate knowledge of and experience with technologies we will not be able to market librarians as valuable, competent, technology-savvy professionals. Technology lab courses can be integrated into the curriculum to compliment certain courses where practice is imperative. For example, courses such as Networks and Information Systems, Database Searching, Electronic Resources, and Computer Technologies would have one-credit accompanying labs where students learn and practice the hands-on skills with the guidance of instructors. Many of the sciences incorporate laboratory courses to enhance theory-based lecture courses. It is time for Library education to try.

Library education is inconsistent with regard to the requirement of a field experience or practicum. Some schools require them while others encourage them. However, many students graduate with never having worked in a library or information center. With a mandatory field experience, the library student would to learn to

use technologies in a real-world setting. Thus, the student would learn not only the skill itself, but also learn knowledge of how technologies can be used in libraries and the impact they have on users and staff. Those students who already work in library settings could be exempt from the field experience, or they could use their job as the field experience and gain course credit. Many other professions have mandatory field experiences or internships that ensure that professionals entering the field are competent and prepared to represent the profession. It is time for library education to try.

Meeting the challenge of teaching new and emerging technologies to library students will always be difficult due to the rapid rate of technological change. However, library education must not use this as an excuse for not educating its students. Library educators should remember that librarianship is not the only profession affected by technology. Medical schools do not refrain from teaching the most current surgical techniques for fear that they may be outdated in a year due to technological advances. Library educators should realize that technology is not an obstacle or a novelty, it is a tool that has allowed librarians to better serve their users. Just as library education realizes that no technological change is permanent- but technological change is, it too must remember that no curriculum is permanent. Librarianship is an evolving profession, library education should and must adapt.

Donna is a student of the School of Library and Information Science at Louisiana State University. She has been a student member of the Special Libraries Association since 1998. Her home address is: 6958 Pontchartrain Blvd, New Orleans, LA 70124
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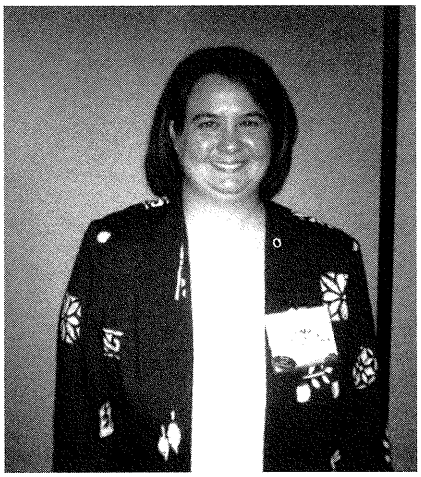
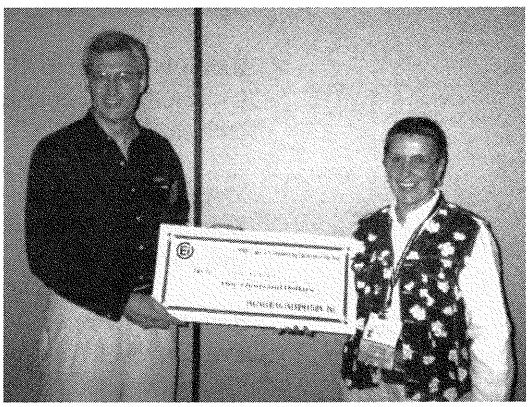
## Engineering Division in Philadelphia

Marilyn Redmond, chair



Inspec Travel Stipend Winner
Donna Marie Braque



EI Engineering Librarian of the Year, Patricia Parker and Peter Katz, Senior Vice-President of Sales and Marketing, Engineering Information

## Engineering Division – New Members Roster 1999-2000
## July 11, 2000

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Bloominton, MN

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Eastern IL University
Charleston, IL

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U.S. Army
Corps of Engineers - New Orleans District
New Orleans, LA

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Prescott, AZ

Amy L. Carlson
Lockheed Martin Tactical Defense
Saint Paul, MN

Darra R. Combs
Westinghouse Savannah River Co
Aiken, SC

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Creare Inc.
Hanover, NH

Carol Coughlin
Williamsburg, VA

Kristin Darnell
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Susan M. Fitzgerald
Honeywell Inc.
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Jill E. Foreman
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Parsons Brinckerhoff
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Nancy L. Gaynor
Motorola Inc.
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Nancy J. Glass
CISTI
Vancouver, BC
Canada

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Jennifer Hatfield
Lockheed Martin
Manassas, VA

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Kensington, CA

Linda S. Killian
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Brenda A. Lawson
Aviation Week Newsletters
Washington, D. C.

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BMD Technical Info Center
Arlington, VA

# AEROSPACE SECTION OF THE ENGINEERING DIVISION

The Aerospace Section of the Engineering Division encourages communication and cooperation among information professionals concerned with aerospace, aeronautical and related technologies. In addition, it fosters dialog with entities such as NASA, the AIAA and other important sources of technical data and bibliographical services.

## FROM THE CHAIR

**SUSAN LAMANNA**

Greetings to all Aerospace Section members!

As I sit at my computer, I am wondering how all of you are enjoying your summer. By the time you read this, summer will be just about over for some of you. I hope each of you experienced something different this summer.

Membership in the Aerospace Section is important in that we are a unique group of professionals dealing with an industry that is constantly changing, projecting us upward and forward to explore the unknown.

At the Aerospace Luncheon at June's SLA conference, we had as our guest speaker Norm Augustine, former CEO of Lockheed Martin. He entertained us with his thoughts on the aerospace industry, related stories of how librarians had influenced his working life, and stayed to sign books afterward (see pictures following page). Due to time constraints, the business part of the luncheon was canceled. Therefore, I would like to advise you of the new chair-elect for 2001—Thomas G. De Petro, engineering librarian at Texas A&M University (e-mail address: tdp@tamu.edu).

Our membership chair, Eileen Dorschner, has resigned. Many thanks, Eileen, for your help over the past few years. We need a volunteer to be Membership chair for this year—any takers? Please e-mail me at lamanns@tc.gc.ca by September 15, 2000. If no one volunteers, Kathy Nordhaus (Engineering Divisions Membership chair) has graciously offered her time to be our Membership chair as well.

I hope to have a list of members for the next *Sci-Tech News*. If your name has been left out, please advise the new Membership chair or me immediately.

George Mandel Award

Two volunteers are needed to work with the chair-elect on this Nominating Committee. Please contact Tom (tdp@tamu.edu). Thank you.

At the luncheon, a paper was passed out outlining proposed changes to the George Mandel Award (an explanation of the award is on the Engineering Division's Web site). They are as follows:

1. Increase the amount of the award from $500 to $750–$1,000.
2. Allow the recipient to use the award for any SLA-sponsored conference or educational program (currently the award must be used for either the annual or midwinter conference).
3. Move the timetable for awarding GMMA, so recipients have more time to schedule the event they plan to attend. The deadline for nominations would be December 1 (not January 1). Recipients would be notified by January 1 of the year in which the award is given.

We did not have time to vote on these changes at the luncheon, so I ask you to please take the time now to respond by the following method:

E-mail: lamanns@tc.gc.ca by September 30, 2000, your vote as follows:

1. Agree/disagree to change amount to (a) $750 (b) $1,000
2. Agree/disagree to allow recipient to use award for any SLA-sponsored conference
3. Agree/disagree to change deadline date

I will make adjustments according to the responses I receive and advise you on the results.

If anyone would like to assist with finding a chair-elect for 2002, please advise me, as I need two volunteers.

That is about it for this issue. Please feel free to call or e-mail me at the following:

Susan Lamanna
Transport Canada
International Aviation
Ottawa, Ontario
K1A 0N8
613-998-5018
lamanns@tc.gc.ca

# Norm Augustine Speaks to Aerospace Section

# MATERIALS RESEARCH AND MANUFACTURING DIVISION

Members of the Materials Research and Manufacturing Division share information concerning all phases of materials procurement production, applications and handling by means of educational activities, cooperative programs, publications and Division sponsored events at annual conferences.

## FROM THE CHAIR

**CHUCK WENGER**

Hello,
Here I am—the next generation of Scott Trask (apologies to Scott), your fine and fearless leader and chair for the last year. The problem is my name happens to be Chuck Wenger. Scott has been a great mentor for the last year-so great in fact that he has agreed to take responsibility for all of my mistakes this year.

By way of introduction—
I graduated from the University of Denver with a bachelor's degree in chemistry and went to work for Marathon Oil as a chemist, trying to figure out better and cheaper ways of getting oil out of the ground. After about five years of working with microemulsions, micellar solutions, polymers, and some other rather exotic organic chemicals, I opted for a career with more human interaction. I really enjoyed the excitement of scientific discovery, and although it was great while it lasted, it occurred only too seldom. For me, there's no substitute for interacting with a diverse group of people on a regular basis every day.

In a somewhat circuitous route, I went to library school at the University of Denver. I subsequently worked in libraries at the National Oceanic and Atmospheric Administration and Idaho State University, and became the library director at the National Center for Atmospheric Research. Currently, I have been in Chicago for a little more than three years. I'm the associate dean of public services for the Paul V. Galvin Library at the Illinois Institute of Technology, a position that I have held for all of five days—going on six (as of late July 5).

You may be interested in knowing that IIT has a Ph.D. program in materials engineering and a faculty and student body that is always looking for new projects, some of which could involve our type of work. Last year, following my urging, a faculty member and a group of students began such a project, choosing the development of a numeric database of properties of various powders in powder technology. The point being, if you have any thoughts on research that a group of students could do that would involve information in materials research and engineering, please let me know.

This fall there is a high probability that not only will that project be continued, but also a new one on developing a knowledge database of human resources in an area of materials and metallurgy in the Chicago area will begin. The most likely subject candidate will be steel. Let me know of topics you would like to see explored at IIT and I can pass them on to our faculty.

What a great conference in a great city—Philadelphia. Carol Tenopir and Donald W. King (one

of our featured presenters next year in San Antonio) were there for book signings and a short presentation. Next year MR&M will give them two and a half hours to talk about electronic journals (Carol) and the value of information and library services (Don), drawing from their book just published by SLA.

We have a number of other programs that we're hoping to have presented in San Antonio—much is left to our ability to find sponsorship in the form of corporate dollars. More about the specific programs in future columns—see my e-mail to the MR&M listserv before the national conference.

The need for money is critical to our ability to present programs. SLA headquarters tells me that it costs about $2,500 to put on one program. That's more than the total amount I've been allotted for program planning for San Antonio. Besides corporate donations, there are other ways of funding a program. For example, if we can get a few other (wealthier) divisions to co-sponsor an event, then the divisions can split the program cost. However, building a larger membership is key. The more members we have, the more money we have to present programs relevant to you.

For each member that we have, SLA gives us a portion of his or her annual dues. So, if we can recruit members for SLA and MR&M, it will strengthen our ability to finance your programs. If you know of any likely SLA and MR&M candidates, please encourage them to join.

In conjunction with this attempt to increase membership, we plan to develop a flyer for MR&M to include the benefits of joining. If you could spend just a few minutes and answer any or all of the questions below, it would be very helpful.

1. What do you see as the primary benefits of belonging to MR&M? What would you suggest we put into a flyer? Some examples: We have the listserv for sharing tough reference questions and getting to know fellow MR&Mers; this column in *Sci-Tech News;* Scott is developing a Web page (what would you like to see there?); the opportunity to make recommendations for programs at SLA; the opportunity to be sponsored to give a presentation at SLA (Linda Senkus, one of our own, will likely be presenting in San Antonio); and our own Materials-specific newsletter. What else? I need your help.

2. What services/benefits would you like to see added from your division? This is creative thinking time, not hold-back time. We may not be able to provide them, but please let me know what you'd like us to do and we can go from there.

3. Would you like to see an open house at the national SLA conference? (I'm looking for a sponsor). Do you know of anyone we might contact to sponsor us?

4. Do you know of anyone who has left the division and, if so, why they chose to leave?

5. What are your ideas for increasing membership?

6. We have a few members who have offered to help. Not knowing how much assistance we'll need, if you'd like to volunteer please let me know.

7. Anyone who thinks they might like to hold an MR&M office, don't hesitate to contact me. There are some excellent career-growth opportunities here.

8. What other questions should I be asking?

Thanks in advance and keep in touch,
Chuck

## Materials Research and Manufacturing: Notes from the Board and General Membership Meetings

The MRM Board consisting of Martha Rose Rhine, Martha Walunis, Chuck Wenger and Scott Trask met on the 10th of June.

At the board meeting, the following issues were discussed:

Budget:
Headquarters requires that we have a budget in place, therefore, we budgeted as follows:
$500 per conference per chair/chair-elect.
$300 for annual conference breakfast
$500 for membership campaign
$2000 for programming
$400 for bulletin
It is not required that all of this money be spent in this manner, however, we must budget for the possibility.

Logo and Stationery:
Scott Trask presented a logo for the division. The board agreed to the design and sent it to the Membership meeting for approval. The logo will be sent electronically to anyone who needs to use it.

Bulletin:
Many of the divisions are going to an electronic bulletin and the board discussed the possibility of doing the same. This would result in a $400 annual savings for the division. We have already paid for this year but we will investigate going electronic. Scott Trask said that he would mail the resulting newsletter to anyone who could not access it electronically. More information will follow in the coming months.

Membership Recruitment:
Chuck Wenger is extremely interested, as is the rest of the board, in increasing our division membership. Several ideas were discussed and Chuck will be sending out further information as the ideas progress.

Global 2000:
MRM committed to giving $250 towards the Global 2000 campaign. This money was taken from the $500 that was not used because of the cancellation of the student paper presentation.

The General Membership Meeting was held on June the 13th. A fine breakfast was enjoyed by all who attended. Our Board proctor was Dick Wallace.

The treasurer's report and the minutes were read and approved.

The following items were discussed:

Logo:
The logo mentioned above, was presented to the general membership.

After some discussion, the general design of the logo was approved, with the understanding that the steel industry would be slightly more represented with the addition of an I-beam to the logo. Scott Trask agreed to add that design element and issue the new logo.

Strategic Planning:
Scott Trask is going to get together with Patricia Cromi and get the strategic plan in place.

Bibliography:
There is continuing interest in developing a bibliography and Tracy Landfried indicated that she does want to work on this project. Chuck Wenger also indicated that IIT would be interested in this project as did Eleanor Baldwin of ASM.

Bylaws:
Tim Gaus and Martha Rose Rhine revised the by-laws during the last year.

Scott Trask is going to review them based on changes that have occurred during the year and then submit them to the by-laws committee.

Bulletin:
The issue of going electronic was discussed. There was concern voiced for those who don't have access and that concern was somewhat allayed because the newsletter will be mailed to those people without electronic access..

Officers:
Martha Walunis was accepted as chair-elect. Eleanor Baldwin will serve as secretary. Martha Rose Rhine will continue as treasurer. Chuck Wenger is the chair. Scott Trask is the past chair.

Special thanks to Eleanor Baldwin and ASM for the yearly distribution of ASM technical reference books.

Submitted by Scott Trask

**The Materials Research and Manufacturing Division Welcomes its New Members:**

(1) Alex Caracuzzo
Albany Intl Research Cp
777 West St
Mansfield, MA 02048-1122

(2) Gary A Cummins
ISI
Corporate Sales
3501 Market St
Philadelphi, PA 19104-3389

(3) Darrin H. Flinn
Saint-Gobain Industrial Ceramics
NRDC Library
Goddard Rd
Northboro, MA 01532

(4) Janice M.Jones
Dofasco Inc.
Library Resource Ctr
1390 Burlington St E
Hamilton, ON L8N 3J5

# SCIENCE-TECHNOLOGY DIVISION

The objectives of the Science-Technology Division shall be to draw together those members of the Special Libraries Association having an interest in the role of library and informationscience as applied to the recording, retrieval and dissemination of knowledge and information in all areas of science and technology, and to promote and improve the communication, dissemination and use of such knowledge for the benefit of libraries and their users.

## FROM THE CHAIR

**MARSHA J. SAYLOR**

The World-Class Crew

Hello! As this year's chair for the Science-Technology Division, I would like to thank everyone who has so graciously agreed to help keep the division on course. We have a great crew on board so we can sail through the year. In addition to our elected officials—Marsha Saylor, chair; Janet Hughes, chair elect; Judith Siess, secretary; Ann Koopman, treasurer; and Wei-Wei, past chair—the board has exceptional talent and skills. This outstanding group is composed of:

Judith Siess, AALL Liaison
Virginia A. Baldwin , ALA/ACRL Science and Technology Section Liaison
Judy Hickey, Auditor
Ellis Mount, Government Relations Committee
Suzanne Fedunok, International Relations Liaison
James E. Manasco, Membership Committee
H. Stephen McMinn, Nominating Committee
Bonny Hilditch, Parliamentarian
Leila Fernandez, Professional Development Chair
Kathy L. Nordhaus, Program Planner 2001—San Antonio
David Duggar, Projects and Publications Committee
Hema Ramachandran, Public Relations Committee
Barbara Parkinson, *Sci-Tech News* Business Manager
Bonnie Osif, *Sci-Tech News* Editor
Barbara Parkinson, *Sci-Tech News* Subscriptions Manager
Mary Frances Lembo, Student Relations Committee
Nancy A. Wilmes, Teller
John L. Cruickshank, Web Committee Chair

Thank you to everyone for agreeing to give your time and energies. YOU make the Science-Technology Division.

I would especially like to thank Robin Jourdan, last year's Award Committee Chair, who requested a replacement for her position. So far we have had no willing volunteer for this position, so Robin has continued helping the division. She not only provided guidelines for the Global 2000 Stipend Awards (see this issue for complete information), she also updated the criteria for the International Librarian's Award so the information could be printed in this issue of *Sci-Tech News.*

Barbara Parkinson agreed to take over Suzanne Ogden's position of Subscriptions Manager for *Sci-Tech News* as well as continuing as *Sci-Tech News* Business Manager.

Liela Fernadez is a newcomer and is tackling Professional Development duties for the division, including setting up the Continuing Education courses for the 2001 conference in San Antonio.

John Cruikshank is busy taking over the duties of Webmaster. His transition is being eased by Joe Kraus' dedicated assistance. I know John will continue Joe's excellent work.

Kathy Nordhaus agreed to accept the awesome responsibility of organizing the 2001 Conference for the division. If you have any suggestions for programs or would like to help, please contact her at k-nordhaus@raytheon.com.

James Manasco is putting his energy and dedication to work on the Membership Committee. The division will benefit from his efforts.

Stephen McMinn graciously agreed to chair the Nominating Committee. With his dedicated committee, we will see a stellar slate of candidates.

Judy Hickey from MicroPatent is the perfect Auditor as she is neither a member of the division nor related to or employed by anyone in the division. I appreciate her accepting this task.

I would also like to thank the Chairs, Liaisons, and committee members who have agreed to continue to make Science-Technology the exceptional division it is. Many thanks to Virginia A. Baldwin, Ellis Mount, Suzanne Fedunok, Bonny Hilditch (who has also been asked to fill the position of Parliamentarian for the ITE Division), David Duggar, Hema Ramachandran, Bonnie Osif, Mary Frances Lembo, and Nancy A. Wilmes. I feel sure you will best even your exceptional achievements from last year!

The Course for 2000–01

What is the course for the Science-Technology Division this year? The waters I intend to chart during my tenure are:

1. New Logo for the Science-Technology Division
2. Letterhead for the division
3. Streamline and simplify the division
4. Help establish a peer-reviewed section for *Sci-Tech News*

I cannot accomplish any of these goals without your participation and input. I challenge everyone to think about the Science-Technology Division and its logo. I would like you to answer questions raised by John Sandy to help point us toward a new logo. These questions are:

What do we want the logo to convey?
What concepts do we want to include, such as:
—energy
—feeling
—emotion
—excellence?
What differentiates us quickly and visually from other divisions?

Please send any thoughts or ideas you have concerning the logo (or any other ideas you have) to me.

It's Not Just a Job, It Is an Adventure

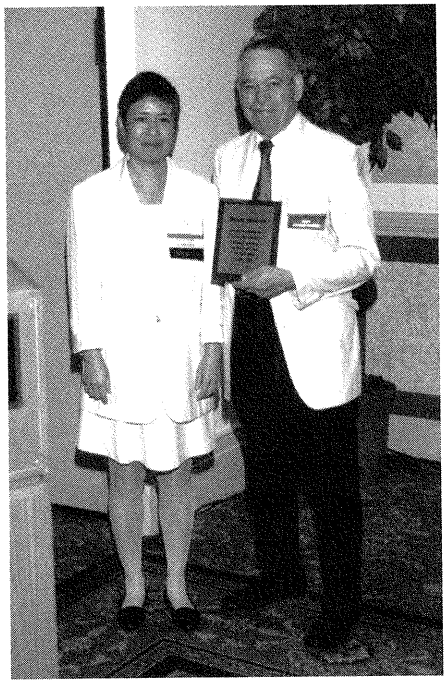
For Science-Technology Division members who want to be involved but find it difficult to attend annual meetings, there is an exciting opportunity for you. We need reviewers for articles in *Sci-Tech News*. If you have time and want to see your name in print, please let Bonnie Osif, our editor, or me know you are available to review.

For those who want a year to make a difference in the division or want to see your ideas implemented, there are several positions available on the Science-Technology Division Board. I want to hear from that special person who will accept the challenge to get involved with the Science-Technology Division this year. If your preference is to be part of a world-class team, there are committee member openings. Let me hear from you!

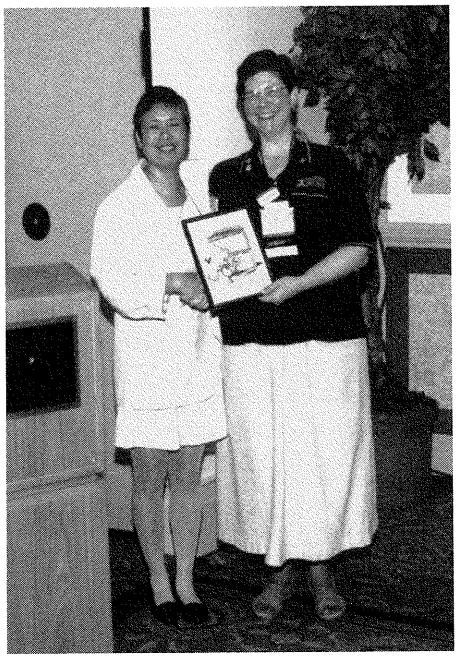
Marsha J. Saylor
864-422-4670 voice
864-422-3579 fax
marsha.saylor@us.michlin.com

## Photos from the 2000 Science-Technology Division Business Meeting

(back row)Howard Stephen McMinn, Judith A. Siess.
(front) Janet Hughes, Wei-Wei, Marsha Saylor



Wei-Wei with Ellis Mount, recognized for his years of service to the Division.



Wei-Wei and Ann Koopman, winner of "The Impossible Award"

Marsha Saylor (chair, 2000-01), and Wei-Wei (chair, 1999-2000)

**SLA Science-Technology Division – 1999/2000 Welcomes its New Members!**
**April - June 2000**
**Nathalie Thirlwall (Chair, 1999-2000)**
**and James E. Manasco (Chair, 2000-2001)**
**Membership Committee**

Kelly D Blessinger
9989 Burbank Dr #J22
Baton Rouge LA 70810-6126

Carla M Caretto
2705 Dryden
Metomora MI 48455

Cindy L Clark
21154 Camomile Court
Germantown MD 20876

Cornel Duta
SmithKline Beecham Romania
Medical Info
Str Capitan Vijelie 4
Bucharest
Romania

Kimberly L Embleton
Devry Inst of Technology
Library
22801 Roscoe Blvd
West Hills CA 91304-3200

Mary Foppiani
Boston University
Science Library
38 Cummington St.
Boston MA 02215-2427

Carla L Gregory
Philip Morris USA
Scientific & Technical Svcs
4201 Commerce Rd
Richmond VA 23234-2269

Kristi L Jensen
711 W Cherry Ln #3
State College PA 16803-2942

Charles L Regan
3221 White Flint Ct
Oakton VA 22124-2716

Jonathan A Silver
DNAX Research Inst
901 S California Ave
Palo Alto CA 94304-1104

Matthew H Stevenson
Prous Science Publishers
Electronic Publications
PO Box 540
Barcelona, 08080
SPAIN

## SLA Annual Conference 2000
## By Mary Lou Baker Jones,
## Paul Laurence Dunbar Library, Wright State University, Dayton, Ohio
***Winner, Sci-Tech Division's S. Kirk Cabeen Travel Stipend***

As a new member of SLA and first-time conference attendee, I brought two objectives to the annual conference in Philadelphia. First, I wanted to enlarge my understanding of the "who" and the "what" of SLA. Second, I wanted to gather information that might benefit me in my job as an academic librarian working in the areas of chemistry, physics, and geology.

I was more successful than I had hoped in achieving both of these goals. The General Session, the Sci-Tech Annual Business Meeting, and the Sci-Tech Newcomer's Brunch gave me opportunities to experience how this organization thinks about itself and what it expects to achieve. The many subject-specific sessions I attended provided me with significant information and valuable contacts. The Midwest Chapters Dessert Reception and CHE Reception at the Chemical Heritage Foundation gave me the opportunity to network with librarians who can help me in my most challenging subject area (chemistry) or within my regional area (Midwest). The CE course I attended (Chemistry and Chemical Librarianship for Non-Chemists) gave me a boost in understanding chemical literature and put faces to the names I have been following on listservs.

For a concise summary of a first-time attendee's observations on the 2000 Philadelphia Annual Conference I offer the following list:
1. Greatest frustration: my inability to bi-locate
2. Sessions I am very glad I attended:
—Physics Roundtable
—History of Women in Science
—National Geologic Map Database
—ERIC Redux
3. Sci-Tech sessions I would single out as being very helpful:
—The Distributed Sci-Tech Librarian
—E-Materials—Barriers to Revolutionizing Scientific Information
4. Sessions I most wanted to attend but could not due to conflicts:
—The Information Policy Hot Topic Session
—Academic Science Librarians' Roundtable
5. Aspects of SLA's Annual Conference that I can't help commenting on as a newcomer:
—Wonderful preplanning Web site for the conference, which enabled me to organize my schedule and print out a concise wish list
—Outstanding general session with Terry Gross and David Talbot
—Friendliness and approachability of the other participants
6. Best serendipity: introducing myself to a stranger while eating in a tiny restaurant half a mile from the Convention Center during Monday evening's thunderstorm and discovering that she also was an SLA attendee looking for a quiet break
7. Favorite activity while at the conference: daily energizing walks through the bustling, friendly, charming streets of downtown Philadelphia

Mary Lou Baker Jones
Physical Sciences Librarian
Paul Laurence Dunbar Library
Wright State University
Dayton OH 45435
937-775-3148

## Report on Philadelphia Conference

**Corrado Pettenati**
**CERN Library—Geneva**
***Winner, International Sci-Tech Librarian***

When I got Robin Jourdan's mail on February 4 announcing me as the SLA Science and Technology award holder, I immediately realised that the ninety-first SLA conference would become a major event in my librarian life.

My boss and colleagues congratulated me, even though I was not really able to explain why the S-T Division chose my name from among the candidates for the award! The amount of the related check was inquired about several times, with excited interest.

I arrived in Philadelphia and, despite the huge conference programme book, was immediately able to integrate the many activities, thanks to the extremely friendly attitude of the entire SLA organisation.

My first impact with the timetable, however, was rather difficult. My European style and behaviours were shocked by the plan to run the S-T Division Annual Business Meeting at 7:15 Monday morning. Of course, the agenda was discussed with effectiveness, charm, and elegance. There was even time for gifts to be exchanged between the incoming chair and the outgoing one.

Even the breakfast itself was excellent! We had time to exchange business cards and start to build up the networking so important for any librarian. Even my French was useful to begin conversations with a few Canadian colleagues.

Our traditional Italian behaviour was also stressed a few minutes later when the Conference General Session started at 8:45 sharp, as planned, with thousands of participants in the Main Hall.

At the SLA conference, everything is huge but nevertheless so well organised that running it looks very simple—from the Cyber Café to the SLA Marketplace, from the message center to the exhibit hall with several hundred vendors.

Finally, I had a full three-day run to visit the exhibit hall, to move from one conference room to another. The conference room with my presentation was always the last at the end of endless corridors (bad luck or training for first-timers)?

My list of conference events, well prepared in advance, was extremely useful, and the available Web tool is magic! The Web program even notes the events with conflicting times.

Despite the mile runs along corridors, I was able to attend several sessions. The most interesting to me were two on Tuesday, June 13:
1. Physics Roundtable: From Archives to Bohr to Citations. The two presentations were very stimulating. CERN is also preparing a Web picture database and studying how to improve the citation automatic processing. The chairperson of this session was Sara Tompson from Fermilab; I finally had the privilege to meet her personally after so many e-mails.

b) E-Materials: Barriers to Revolutionizing Scientific Information. The four presentations of this session certainly helped to answer questions in my library, where e-prints and e-journals are the core business.

I even had the opportunity to invite a couple of speakers to come to Switzerland next year to talk in our Library Science Talks programme. My colleagues will have the chance to listen to them at home.

Next year in San Antonio, will I be so lucky as to be there?

## Conference Insights
**by Darra Combs**
**Westinghouse Savannah River Company, Aiken, South Carolina**
***Winner, Professional Development Award***

I was delighted to receive the Sci-Tech Division's 1999 Special Professional Development Stipend, and really looked forward to traveling to Philadelphia for the SLA Annual Conference. I hadn't attended a large meeting like this since I went to Washington, D.C., for an MLA conference several years ago, so I was eagerly anticipating the opportunities afforded by a national meeting. My preliminary program was pretty dog-eared by the time June rolled around! The interactive program and exhibit hall planner on SLA's Web site was really nifty too—using it to schedule my time saved me from having to lug that heavy program book around.

Being a relatively new face in SLA, I attended the newcomer's brunch and several other receptions in an effort to meet other colleagues. I was surprised and gratified that several Sci-Tech division members recognized my name as an award winner. Everyone was very friendly and talkative, and it was fascinating to hear about all the myriad libraries and their customers and services. Fortunately, I also ran into several librarians from other Department of Energy sites like my own, from the time I got to the first function all the way until I arrived at the airport to catch my flight home! It's nice to put more faces with names and voices from conference calls and e-mail.

With such a wealth of programs to choose from, it was really hard to decide which ones to attend. I focused mostly on those that dealt with electronic journals and measuring value/return on investment. One session on measuring the value of information services was so packed that another room had to be opened! Overall, I was very pleased with the quality of the speakers and the topics chosen. Most speakers are happy to e-mail their presentations to you or make them available on their Web sites, so it's easy to combine that information with your notes after the meeting.

Getting your daily exercise was easy if you included time in the exhibit hall. Walking back and forth and carrying all of the freebies was definitely a workout! I was pleased to be able to talk with such a large number of vendors that I currently do business with, as well as explore less familiar products and services. There are so many new developments in the database and journal publishing world that it was a real benefit to be able to preview all the changes and new developments, right under one roof. And all of the flat-screen computer monitors that the vendors had mounted in their booths made me green with envy—I want one of those!

Attending the meeting in Philadelphia was a delight. I would encourage every member to do what you can to make it to San Antonio for the 2001 meeting. You will reap great rewards from it, and your library and customers will benefit from it as well.

# SCIENCE –TECHNOLOGY DIVISION
# SPECIAL LIBRARIES ASSOCIATION
# ANNUAL BUSINESS MEETING
# 12 JUNE 2000
# MINUTES

Chair Wei Wei called meeting to order at 7:27 a.m.

- Wei introduced the Executive Board.
- This meeting is sponsored by CAS. We thanked them with a round of applause.
- Wei thanked all of our generous sponsors.
- Wei introduced Division members receiving Association honors or occupying leadership positions: Monica Ertel, SLA Board Member, past Chair of the Division, and Fellow; Sandy Moltz, Director; Dorothy McGarry, Fellow and other past Chairs present: Nancy Anderson, Karola Yourison, Eleanor MacLean (also a Fellow), and Richard Funkhouser.
- The minutes of the 1999 annual business meeting were amended by the Board and published in Sci-Tech News. The membership approved the minutes as pubished.

Officers' reports:

The Chair's and the Treasurer's reports are attached.

Chair-elect:

- Marsha asked that we thank our sponsors and named them: ASME. Academic Press, ACS, Basch Subscriptions, Biosis, CISTI, CAS, EBSCO, Dialog, Engineering Information, Elsevier, Gale Group, Inspec, ISI, ISI ReserachSoft, Lexis-Nexis, Micropatent, Sage Science Press, Silverplatter, John Wiley, YBP Library Services.
- Suzanne Ogden won the drawing for the Encyclopedia of Applied Ethics courtesy of Academic Press. The drawing for a free ad in STN was won by ASME.

Awards Committee:

- Robin Jourdan, Chair, introduced the committee members: Jan Camber, Eleanor MacLean, Carla Lee, Cheryl Hansen, Christina Lewis.
- The International Sci-tech librarian award went to Corrado Pettenati, of CERN, Geneva, Switzerland.
- The Kirk Cabeen Travel Stipend winner was MaryLou Baker Jones.
- The Professional Development award winner was Darra Combs.
- The Sci-Tech Annual Achievement award was presented to John Sandy who thanked James Manasco for nominating him, the Awards Committee, and the Division, especially Ellis Mount and his university (University of Alabama).
- The Global 2000 travel award goes to a librarian from Siberia. Luis Herrera of Argentina, last year's international travel award winner who couldn't come last year, was introduced by Robin.

2000 Conference Planner:

- Ann told us about this year's programs. She thanked her committee: James Manasco (contributed papers session), Karola Yourison, Pam Enrici, Jill O'Neil (ematerials program). Nancy Anderson and Joe Kraus were readers of contributed papers and Joe put the papers on the website. Printed proceedings are available. All of our programs have been co-sponsored by other divisions.

- Our new programs are the contributed papers session (we received ten papers and chose three), a vendor update session, and a new CE course on bibliographic citation management software (with 22 preregistered). We were reminded to fill out feedback forms for the Sci-Tech sessions.

Nominating Committee:

- Janet Hughes was elected Chair-elect and Ann Koopman is our new treasurer.

Chair

- Wei thanked all committee chairs and liaisons.
- On behalf of the Board, Wei presented a plaque to Ellis Mount for his work as Editor of Sci-Tech News 1989-1999. Thanks to Ellis, STN is now indexed in Library Literature. His leadership will be sorely missed.
- The Impossible Awards were presented to Ann Koopman and Bonnie Osif.

Old Business:

- All bylaws amendments were approved by the membership in a mail vote.

Announcements:

- Dorothy McGarry and Didi Pancake have been elected to the SLA Hall of Fame. Richard Hulser is a new Fellow and candidate for President-elect. Deborah Kegel and Kathy Whitley won the SLA Innovations in Technology award.
- Wei and Marsha will be bringing up the topic of continuing education credits awards and procedures as an item of new business in the Division Cabinet Meeting to be held Tuesday night.
- Nancy Anderson encouraged all to attend Global 2000. The Division will present a program on digital library projects and how they improve access for users.
- James Manasco called for papers for SA contributed paper session.
- Cindy Clark of NIST announced a job opening for a research consultant. Mary Frances Lembo announced that the Hanford Technical Library (Department of Energy) has 2 openings, cataloger & reference librarian.
- Richard Hulser, thanked Wei for her work as Chair and said that he had recruited her to SLA and the Division.
- We recognized Nancy Anderson on her recent retirement as math librarian at University of Illinois. She is doing part-time fundraising for the library.

Marsha thanked Wei and gave her a gift. She was honored with a round of applause. Wei thanked everyone who worked with her.

Bonny Hilditch moved for adjournment. It was seconded by Richard Hulser. The meeting was adjourned at 8:11 a.m.

Respectfully submitted,

Judith Siess
Secretary
Science-Technology Division
Special Libraries Association

## Chair's Report, 1999-2000
## Science-Technology Division, SLA

I am so fortunate to be able to work with a group of dedicated Executive Board Officers and Committee Chairs this year. Their hard work and commitments to the Division make us all feel great and look good. Thinking back, it is not difficult for me to evaluate our achievements as a division.

Goals

My goals for the Division this year are outlined as follows:

To retain, recruit and expand the membership of the Division.
To seek to refine our conference programs and professional development courses.
To continue updating the Division's strategic plan.

I am happy to report that the Sci-Tech Division's membership has remained strong. Under the leadership of Nathalie Thirlwall, our Membership Committee has taken and given a great deal of thought and energy to survey, recruit, and retain the membership. Ann Koopman, 2000 Conference Planner has done outstanding work planning the Division's conference programs. Her capabilities of being creative, collaborating with other committee members and divisions, and handling program details will enable us to have excellent and very interesting program contents this year. The Division, indeed, has its newly approved strategic plan. John L. Cruickshank, Chair of the Strategic Planning Committee will host a Strategic Planning Update Program at the June conference. In order to strengthen communications between the Division Officers and Committee Chairs, I created a listserv for the Executive Board and another one for the Advisory Board. The results were positive.

Executive Board Actions

Bylaws—Discussed and approved revised Article I, Section III and Article IX, Section II.
Reimbursement Policy—Discussed and approved reimbursement policy for Secretary and Conference Planner.
Approved Division's 2000 Strategic Plan drafted by the Strategic Planning Committee.
Approved the proposal presented by the Project and Publications Committee.

Membership Actions

Voted and elected new Chair-Elect (three year term) and Treasurer (two year term).
Voted and approved the Division's Bylaws changes (Article I, Section III and Article IX, Section II).

Note: This report only highlights the major achievements. If anyone wishes to review individual report from ST Officers or Committee Chairs/Liaisons, please contact me.

**Wei Wei, Chair, 1999-2000**

## SCIENCE TECHNOLOGY DIVISION 2000 BUDGET

| | | |
|---|---|---|
| **ASSUMED OPENING BALANCE: January 1, 2000:** | | **$69996.16** |
| Estimated Pooled Fund | 27600.00 | |
| Checking SLAST99 | 8395.28 | |
| ST News checking | 3393.56 | |
| ST News savings | 5386.44 | |
| ST News CD | 25220.88 | |
| **ESTIMATED INCOME:** | **$66240.00** | |
| Allotment from Association (918@$10.00): | 9180.00 | |
| Bulletin *Sci-Tech News* Subscriptions: | 7400.00 | |
| Bulletin *Sci-Tech News* Advertising: | 10350.00 | |
| Interest Income Totals: | 3085.00 | |
| SLAST2000 | (70.00) | |
| *Sci-Tech News* Checking: | (245.00) | |
| Sci-Tech Pooled Fund: | (1820.00) | |
| *Sci-Tech News* Savings: | (80.00) | |
| *Sci-Tech News* CD: | (870.00) | |
| Contributions/Sponsorships: | 19600.00 | |
| 2000 Annual Conference sponsors | (13100.00) | |
| Contributions from other divisions | (6500.00) | |
| Other Income: | 16625.00 | |
| CE Courses: | (10025.00) | |
| Ticketed events (reception, tours) | (6600.00) | |
| **BALANCE 1999 + ESTIMATED INCOME 2000:** | **$136236.16** | |
| **ESTIMATED EXPENSES:** | | **$72302.00** |
| Bulletin *Sci-Tech News* Production Costs: | 17825.00 | |
| Production Costs Non-Advertising | (14975.00) | |
| Advertising Costs | (2850.00) | |
| Annual Conference Costs: | 34427.00 | |
| Receptions, tours | (19352.00) | |
| Business & Board meetings | (2350.00) | |
| Tickets for guests | (550.00) | |
| Speakers | (100.00) | |
| Equipment and rooms | (3175.00) | |
| Pledges to other Divisions | (1950.00) | |
| CE course | (6950.00) | |
| Awards: | 3250.00 | |
| Achievement | (750.00) | |
| S. Kirk Cabeen Travel Stipend: | (750.00) | |
| Professional Development | (750.00) | |
| International Librarians | (1000.00) | |
| Global 2000 | 5500.00 | |
| International Librarian | (2000.00) | |
| 2 awards | (1500.00) | |

| | |
|---|---|
| Nancy Anderson | (1500.00) |
| Other | (500.00) |
| Election/Ballots: | 800.00 |
| Bylaws Ballots | 800.00 |
| Board Expenses including travel | 7000.00 |
| Committees (14@$100.00) | 1400.00 |
| Special Funds Awards Committee | 1500.00 |
| **ESTIMATED BALANCE 2000:** | **$63934.16** |

## SCIENCE-TECHNOLOGY DIVISION, SLA, MID-YEAR BALANCE SHEET 1/1/00 Through 5/31/00

| Category Description | | 1/1/'00-5/31/'00 |
|---|---|---|
| **INFLOWS** | | |
| Dues Allotment | | 9,180.00 |
| Interest Income | | 463.00 |
| Sponsorships | | 7,650.00 |
| Uncategorized Inflows | | 6,974.76 |
| **TOTAL INFLOWS** | | 24,267.76 |
| **OUTFLOWS** | | |
| Bank Charges | | 95.25 |
| Meeting Expense: | | |
| Annual Conf. | 371.64 | |
| Winter | 1,253.55 | |
| **TOTAL Meeting Expense** | | 1,625.19 |
| Miscellaneous Expense: | | |
| Awards | 1,750.00 | |
| Bylaws | 787.67 | |
| Election | 822.71 | |
| Gifts&Plaques | 103.00 | |
| **TOTAL Miscellaneous Expense** | | 3,463.38 |
| Postage & Supply | | 27.44 |
| Uncategorized Outflows | | 5,613.66 |
| **TOTAL OUTFLOWS** | | 10,824.92 |
| **OVERALL TOTAL** | | 13,442.84 |

## Nominations of Officers

Nominations for Officers: The Sci-Tech Division is looking for candidates for the positions of Chair-Elect and Secretary starting in 2001. If you are interested in either of these positions or would like to nominate a fellow Sci-Tech member, please contact me, the other members of the Nominations Committee, or Executive Board. If you would just like more information on the positions and their related responsibilities and rewards, please get in touch with us or consult the Sci-Tech Divisions Procedures Manual on the Web at http://www.du.edu/~jokraus/sla-st/manual.html.

My contact information is as follows:

Howard Stephen McMinn
Chair, Nominations Committee
Science and Engineering Library
Wayne State University
Detroit, MI 48202
Phone: (313) 577-6317
Fax: (313) 577-3613
E-Mail: h.s.mcminn@wayne.edu

## Global 2000 Science-Technology Travel Stipends

The Science-Technology Global 2000 (16 – 19 October) Stipend is an award presented by the Science-Technology Division and is reserved for those recipients who will be attending Global 2000. The purpose of the stipend is to support two (2) Science-Technology members to attend the Global 2000 meeting. Each winner will receive up to $750 to be used toward expenses (including registration) of attending the conference.

The SLA Science-Technology Division reserves the right to withhold the award if a sufficient number of appropriate candidates are not nominated.

QUALIFICATIONS:

- Be a current member of the Special Libraries Association; with preference given to current members of the Science-Technology Division.
- Be currently working in a library, information center, library school, or other information capacity.

NOMINATIONS:

Self-nominations are encouraged.

All nominations must include the following:

- A short essay (500 words or less) on Global 2000:

Ideas may include, but are not limited to:

a. general essay on the mission statement (see below),
b. essay on how a project you have participated in supports the mission statement,
c. outline of a project you would like to participate in which supports the mission statement or
d. why this conference could be useful and how the information would be used.

Mission statement for Global 2000:

"To support and encourage interaction and networking among all participants to acquire knowledge about information services and to gain insights into other people and places."

- Supporting documentation, although not mandatory, may include a current curriculum vita OR resume for the candidate, significant publications, supporting letters, etc.

DEADLINE FOR NOMINATIONS:

1 September, 2000

APPLICATION PROCEDURES

1. Send nomination materials to the contact listed below. A copy of the nomination materials is included above and on the Science-Technology Division web site: http://www.du.edu/~jokraus/sla-st/global2000.html

2. Include a current resume and relevant materials as outlined in the criteria for the award.

Printed nomination materials are acceptable; e-mail or electronic nomination materials are preferred.

POST AWARD REQUIREMENTS

1. Recipient(s) will write a brief article (approximately 1,000 words) on the Global 2000 conference experience for the November 2000 Science-Technology Newsletter. This is due to the Editor of Sci-Tech News by close of business 26 October.

NOTIFICATION

1. Award winner(s) will receive notification of award by 15 September 2000.
2. The award check(s) will be sent to the recipient with notification of the award.
3. The recipients' names will be posted to the Science-Technology Division's Web site.

SUBMIT ***PRINT*** NOMINATION MATERIALS FOR THE ABOVE AWARDS TO:
Janet Hughes
Biological Sciences Librarian
408 Paterno Library
Penn State University
University Park PA 16802
(814) 865-3705
(814) 863-9684 FAX

SUBMIT ***ELECTRONIC/E-MAIL*** NOMINATION MATERIALS FOR THE ABOVE AWARDS TO:
Marsha J. Saylor
P. O. Box 1987
Greenville, SC 29602-1987
Marsha.saylor@us.michelin.com
864.422.4670
864.422.3579 FAX

## INTERNATIONAL SCIENCE-TECHNOLOGY DIVISION LIBRARIAN AWARD

The International Science-Technology Division Librarian Award is presented to a librarian outside of the United States and Canada. The purpose of the award is to provide an opportunity for a librarian outside of the United States and Canada to attend the annual Special Libraries Association (SLA) conference. The award will consist of conference registration and airfare, not to exceed US$1000.

The SLA Science-Technology Division Awards Committee reserves the right to withhold the award if a sufficient number of appropriate candidates are not nominated.

QUALIFICATIONS:

Be a current member of SLA, preference going to members of the Science-Technology Division.
Reside and work outside of the United States and Canada. Be working currently in a library, information center, library school or other information capacity; preferably in the science and technology area.
Submission should be in English.

NOMINATIONS:

Self-nominations are encouraged. Send a typed and signed statement including information on the candidate's professional career, professional activities or offices held, special projects or services, publications, and any other related functions that qualify the person for the award.

Documentation, although not mandatory, may include a current curriculum vita OR resume for the candidate, significant publications, supporting letters, etc.

DEADLINE FOR NOMINATIONS:

January 1, 2001

APPLICATION PROCEDURES for the INTERNATIONAL SCIENCE-TECHNOLOGY DIVISION LIBRARIAN AWARD

1. Fill out the application. A copy is included in this issue and on the Science-Technology Division web site: http://www.du.edu/~jokraus/sla-st/global2000.html

2. Include a current resume and relevant materials as outlined in the criteria for the award.

POST AWARD REQUIREMENTS

1. Recipient(s) will write a brief article (approximately 1,000 words) on the conference experience for the November 2001 Newsletter.

2. Recipient(s) will be asked to serve on the Science-Technology Division Awards Committee the following year in order to provide for the continuity and enthusiasm of this award.

NOTIFICATION

1. Applicants will receive notification of award status by early February 2001. The award check will be sent to the recipient as soon as the receipts are received by the Awards Chairperson.

2. The recipient's names will be posted to the Science-Technology Division's Web site.

3. The announcement and introduction of the recipient will take place the recipient at the Science-Technology Division's Annual Business Meeting/breakfast. Details forthcoming.

Email nominations and materials preferred. Hard copy/print materials accepted.

SUBMIT THE ABOVE DOCUMENTS AND NOMINATION FORM FOR THE INTERNATIONAL LIBRARIAN AWARD TO:

Nathalie Thirlwall
Chair, Science-Technology Division Award Committee
RE: INTERNATIONAL SCIENCE-TECHNOLOGY DIVISION LIBRARIAN AWARD
CISTI, National Research Council Canada
NRC Information Centre Ottawa
Montreal Road, Bldg. M-55, Room 148
Ottawa, Canada
K1A 0S2

E-Mail: nathalie.Thirlwall@nrc.ca
fax: (613) 952-8239

Please allow 2 weeks for mail delivery.

Nomination Form (Please type or print):

Nominee:_____

Complete Title:_____

Employer:_____

Full Mailing Address:_____

_____

Zip/Postal Code: _____
Country: _____

Business Phone: (___)_____
Home Phone: (___)_____

Fax: (___)_____
E-mail: _____

If student, provide school and anticipated graduation date :
_____

Your name: _____

Signature: _____

Your full mailing address:
_____
_____

## Sci-Tech Division Listserv Subscription Information
## Virginia A. Baldwin

If you are not already on the Sci Tech listserv, you are encouraged to take advantage of the opportunity to be regularly informed of Sci-Tech issues and to contribute to our listserv.

Subscription information follows:

To (subscribe or) re-subscribe, send a message to:
majordomo@welles.library.nwu.edu
Please leave the subject line empty. In the body of the message you need to specify your e-mail address and you can also put your name in parentheses after the address, such as jdoe@nwu.edu (Jane Doe). Write only:
subscribe sla-st your e-mail address (your name)
For example: subscribe sla-st jdoe@nwu.edu (Jane Doe)

To learn about other available commands, send a message to:
majordomo@welles.library.nwu.edu
Please leave the subject line empty. In the body of the message write only:
HELP

Questions about the list can be sent to:
SLA-ST-owner@majordomo.library.nwu.edu

There is a web archive to this list at:
URL:http://www.library.nwu.edu/cgi-bin/lwgate/SLA-ST

More information on Majordomo commands can be obtained from:
URL:http://www.library.nwu.edu/majordomo/info

# Sci-Tech Conference Program Summaries

## Patent Searching, Introduction and Advanced CE Courses Sponsored by MicroPatent and Engineering Information, Inc.

The Sci-Tech Division has offered a two-day sequence of Patent Searching courses for several years, and demand has continued to be steady. Instructor Lucille J. Brown Dunson of LJB International gives attendees a thorough background in patenting procedures, print and electronic resources for tracing U.S. and European patent histories, strategies for successful searching, and analysis of search results.

The introductory course on the first day is lecture-based, with a substantial workbook of documentation. Because the course is open to all conference attendees, students' interests can be quite diverse, from the pharmaceutical industry to engineering. Ms. Dunson routinely polls the preregistrants in order to tailor her examples to their needs.

The advanced course, on the second day, is less focused on lecture. It emphasizes case-based learning, in which students work through scenarios as a team. Together they determine fictional clients' needs, appropriate search strategies, coverage of resources, and analysis of outcomes. Examples are drawn from students' interests wherever possible. While corporate privacy must always be preserved in sessions such as this, Ms. Dunson's firm is also available for consultations or on-site training in corporate settings.

Students consistently give this course sequence the highest ratings and enthusiastic reviews. Some have even been known to repeat it as a refresher from year to year, and say they find something new to take home each time they take it.

## Bibliographic Citation Management Software Sponsored by ISI ResearchSoft Cooperating divisions: Chemistry

The explosion of scientific information can be managed by software that serves multiple purposes: filing system, citation formatter, collaborative research tool, Z39.50 search engine, organizer of Internet links, and more. Sci-Tech members may use such software themselves to support their personal publishing or library applications. More and more, they must also advise and support their clients' use of it, especially in conjunction with acquiring and handling information in bulk from databases.

This year, recognizing the need to become more familiar with such software, Sci-Tech Division planners provided both a vendor update session on three popular packages and a continuing education course with hands-on training. We expected the topic to be popular, but no one realized just how popular it would be. Approximately 140 people attended the vendor update, in spite of its being scheduled over the lunch hour. In addition, 27 people stayed over on Thursday for the half-day CE course.

Instructor Nancy Matus of ISI ResearchSoft led the hands-on portion of the course, comparing functions between multiple products. Held in the library's teaching lab at nearby Thomas Jefferson University, the course allowed each student his or her own computer to follow along and practice with each software package. Scott Library at Jefferson maintains an active support and training program for one product, so we shared copies of its instructional materials and comparative shopping advice.

### Computer Science Literature Roundtable Sponsored by Basch Subscriptions and INSPEC Cooperating division: Physics-Astronomy-Math

As a special "retrospective" program appropriate for the 2000 conference, the Sci-Tech and PAM Divisions invited two of the original programmers of the ENIAC computer to share some memories of their experiences. Kay Mauchly Antonelli and Jean Bartik were fresh out of college in 1942, armed with math degrees but with little interest in the teaching careers open to most women with such training. Instead, they answered newspaper ads calling for "numerical integrators" and went to work for the Army as "assistant computers." In those days, "computer" was a job title. At first, they worked on problems such as tracking the trajectory of a bullet when fired. The proposers of the ENIAC, which stands for Electronic Numerical Integrator and Computer, promised to reduce to a mere fifteen seconds calculations that normally would require forty person-hours.

ENIAC was programmed with switches and more than 18,000 vacuum tubes. It was so top secret that the programmers weren't even allowed to see it until the very end—they had to work from blueprints and diagrams. They ended up memorizing the tube placements and functions. When the tubes blew out (at a rate of ten a day!), the women could trace them from this knowledge.

The handful of women who worked on ENIAC worked very closely with its inventors, John Mauchly and J. Prosper Eckert, solving problems on a daily basis. Antonelli and Bartik still communicate a sense of wonder at the finished product, which people would stand and watch in a darkened room. The tubes would turn off and on as ENIAC built a calculation, so that running a program would turn into a light display. Knowing the tubes as they did, the programmers could see exactly where the program was in its progress by watching the display.

Mauchly and Bartik went about their lives after the ENIAC was completed in 1946. Only recently have they been in demand as speakers, since ENIAC's fiftieth anniversary raised interest in the topic. Few of those originally involved remain to tell the story. Though they were originally scheduled to speak for only half the session, it became clear that the audience was on the edge of its seats, and the ladies responded by lengthening their presentation. The division videotaped the session and is working out the details of placing the results on its division Web site.

### When Scientific Research and Ethics Collide: Exploring the Controversies
### Sci-Tech sponsor: Academic Press Cooperating divisions: Biomedical and Life Sciences (lead division); Education; and Food, Agriculture, and Nutrition

Interest in the field of scientific ethics and, in particular, bioethics has grown dramatically in recent decades in response to tremendous advances in technology. Major institutions have established research and training programs, and courses have been developed to consider the appropriate vs that touch humans most directly, such as cloning, eugenics for humans, changes in food sources, and our relationships with other creatures. The broad range of issues was reflected in this program's co-sponsorship by several divisions, as well (BIO, Sci-Tech, FAN, and Education).

The first member of the panel, David Magnus, teaches and does research at the Center for Bioethics at the University of Pennsylvania. He presented an overview of the field, defining terms and pointing to areas in which society will be challenged in the near future. Of particular concern to Magnus are the expectations and pressures placed on children, for whose genes huge fees may have been paid, if they fail to demonstrate the desired characteristics. The reductionist assumption that life is just a set of genes will be in direct conflict with the fact that identical genetic blueprints don't necessarily have similar results.

The second speaker was Deborah Blum, noted journalist and Pulitzer Prize-winning author, whose works include *The Monkey Wars* (Oxford Press, 1994). She has written extensively on issues of animal rights and welfare, and is currently engaged in research for a book about the psychologist Harry Harlow. Harlow was responsible for shaping our understanding of human behavior and development through maternal love and social relationships. His experiments with monkeys included the widely known wire-mother and cloth-mother tests. Since many of his experiments involved withdrawal of a supportive environment and deliberate deprivation of emotional care (e.g., the "evil mother"), his work is now extremely controversial. And yet, the results led to a radical change in how psychologists view relationships, perhaps even setting the stage for today's view of such experimentation as anathema. Blum speculated on the questions raised by Harlow's research and the degree to which ends justify means.

Closing the session was Doris Goldstein, director of the National Reference Center for Bioethics Literature at Georgetown University's Kennedy Institute of Ethics. Goldstein reviewed resources the institute makes available to researchers and the public, including their Web site (http://bioethics.georgetown.edu/) and the future merger of BioethicsLine database with PubMed. The institute performs the indexing for BioethicsLine under contract to the National Library of Medicine.. the possible, and to study the consequences of new technologies.

**The Distributed Sci-Tech Librarian: Models for Remote Information Services**
**Sponsor: Elsevier Science**

Sci-Tech Division tried out a new kind of program for the 2000 conference: a contributed papers session, intended to give members a venue to speak in practical terms about projects in which they have been involved. The session's theme was the delivery of information services to users, no matter their location.

Bill Johnson, science librarian at Arizona State University East, presented a theme-based Web module designed to support topical instruction, research, and information literacy skills in the environmental sciences. Suitable for college undergraduates and open to the public, Project EVEN (EnVironmental Education oNline) was also an experiment in interinstitutional cooperation on a joint project. View EVEN at http://eastlib.east.asu.edu/Reference/even/.

Mary Schlembach of the University of Illinois Urbana-Champaign's Grainger Engineering Library discussed a series of in-house databases made available over the Web using MS Access, SQL, and ASP (active server pages) technologies. Topics of the more than twenty local databases include reference FAQs, journal bindery and table of contents information, new books, faculty interests, uncataloged technical reports, and more. The Web-based products receive thousands of queries per month; even inside the library, they account for about one-fourth of the selections made from public terminals. View the Grainger databases at http://www.library.uiuc.edu/grainger/database/default.asp.

Karen Spence of the U.S. Department of Energy's Office of Scientific and Technical Information (OSTI) discussed the family of energy information products developed by the department to serve business and consumers. PubScience (modeled after PubMed), the DOE Information Bridge, and the PrePrint Network are the three major components of EnergyFiles, a virtual national library of energy-related scientific and technical information. The DOE has created a one-step search engine for all components and provides a substantial amount of supporting literature in full text. Spence cited one month's 14,000 full-text downloads as a savings of $3 million over requests for the same information on paper. View the EnergyFiles site at http://www.osti.gov/EnergyFiles/.

Electronic copies of all three papers are available on the Sci-Tech Division's Web site at http://www.du.edu/~jokraus/sla-st/2000papers.html. Next year's theme deals with how science and technology libraries handle electronic journals. View the 2001 Call for Papers at http://jeffline.tju.edu/~koopman/scitech2000/papers.html.

Above Five Summaries Reported
by Ann Koopman, Sci-Tech 2000
program planner and *JEFFLINE* editor
Thomas Jefferson University
Ann.Koopman@mail.tju.edu

**E-Materials: Barriers to Revolutionizing Scientific Information**
**Sponsors: American Chemical Society, BIOSIS, ISI, and Silver Platter Information, Inc.**
Cooperating divisions: Biomedical and Life Sciences, Chemistry, Information Technology, Pharmaceutical and Health Technology, Physics-Astronomy-Mathematics

Speakers included Julia Blixrud, SPARC; David Stern, Yale University; Jacqueline Trolley, Institute for Scientific Information; and Vicky Reich, High Wire Press.

Julia Blixrud spoke about the formation of SPARC, the Scholarly Publishing and Academic Resources Coalition (www.arl.org/sparc). It currently includes 180 members, mostly from academic libraries. SPARC's strategies include reducing financial risks through subscription pledges, working with prestigious societies, helping to raise faculty awareness of publishing issues, and drawing authors and editors away from high-priced journals. SPARC is now partnering with publishers to bring several journals to the Web, including the *New Journal of Physics* (www.njp.org) and *Internet Journal of Chemistry* (www.ijc.com).

Vicky Reich spoke about turning barriers into opportunities. These barriers include literature accessibility, variable pricing schemes, unbundling journals so they are published online ahead of (or instead of) in print, the publishing of derivative online collections, peer reviews (do benefits outweigh the costs?), and permanent access. One of the initiatives at Stanford University is LOCKSS (Lots of Copies Keeps Stuff Safe—http://lockss.stanford.edu). LOCKSS, a system prototype to preserve access to scientific journals published on the Web, is funded by the National Science Foundation, Sun Microsystems, Inc., and Stanford University. See http://highwire.standford.edu for more information on Stanford's activities.

David Stern spoke about barriers that are still in place. For instance, we still have not reached seamless access to information. We should be using the latest technologies to design search engines that would do searches like users would do them—for example, broadcast technology that would search everywhere at once. Peer reviews are essential but should not exclude the one-stop identification of other good material. Cost models will not change on their own. We, as the customers, need to be more demanding in how information is packaged and delivered.

Everyone felt that the role of the librarian has changed during this time of emerging e-materials. Librarians have become more aware of and influential on the cost models, become skilled negotiators, acquired more technical skills, and become more involved as trainers. All of these factors have increased the complexity of the role of librarians.

Reporter: Kathy Nordhaus
Senior Technical Librarian, Raytheon Company
k-nordhaus@raytheon.com

**History of Women in Science**
**Sponsor: Gale Group**
**Cooperating divisions: Chemistry, Physics-Astronomy-Math, Women's Issues Caucus**

Dr. Sethanne Howard, National Science Foun-

dation, gave a very entertaining and enlightening talk on the history of women in science. Women have been scientists as far back as 4,000 years ago, hence the title of Dr. Howard's talk: "4,000 Years of Women in Science, Technology, Inventions, and Other Altogether Creative Stuff."

According to Dr. Howard, women invented the battle-axe, hydrochloric acid, the double boiler, Gregorian chant, homeopathic medicine, etc. To see a list of the famous women of the last 4,000 years and their accomplishments, see Dr. Howard's Web site: http://www.astr.ua.edu/4000ws/4000ws.html.

Reporter: Kathy Nordhaus

**Developing Science Librarians**
**Sponsor: YBP Library Services**
**Cooperating divisions: Chemistry, Physics-Astronomy-Math (lead division)**

James Manasco, head, Shaver Engineering Library, University of Kentucky (moderator)
Jill Hackenberg, head of reference, University of Buffalo Science and Engineering Libraries
Bob Williams, professor, College of Library and Information Science, University of South Carolina
Mary Frances Lembo, information specialist, Hanaford Technical Library
Michael Fosmire, physics and earth and atmospheric sciences librarian, Purdue University

There were about sixty attendees in this session.

Jill Hackenberg conducted an electronic mail survey on science librarianship. The survey was sent to eight librarian lists and eight student lists. There were 311 responses, 95 percent of which were librarians. Not many students responded; Hackenberg speculates reasons for this are the busy student lifestyle and the possibility that students do not yet know what type of librarian they want to become. She further notes that 60 percent of the responses came from the .edu domain. International respondents noted that the survey was skewed toward librarians in North America. For instance, one of the questions dealt with earning the Master of Library Science degree, a requirement often not necessary outside the United States and Canada.

A large percentage of the respondents—75 percent—noted that a science librarianship course was offered at their school; the majority took this course. Hackenberg noted that she did not collect statistics on why the course was not taken by some but speculated that reasons could be that students did not know they would be sci-tech librarians or perhaps experienced schedule conflicts. Some respondents did not take the course but noted that they got solid science librarianship experience through other means, such as on-the-job training or an internship. Some commented that they did not take the course because it was not offered or they thought it would be too much work.

Of the people responding that they did intend to become a science librarian, not quite half answered that they had a science background; nearly another third have some sort of scientific hobby or interest. Some commented that they heard that it was easy to obtain a job in science librarianship; others commented they were interested in it because of the high salaries.

Over a third of the respondents noted that they did not originally intend to become science librarians but are now. Reasons for getting into science librarianship include a science background, the need for a job, an interest in science, internship, high salaries, ease of getting a job, and ability to relocate quickly.

Seventy percent of those who responded that they had a science background said it has been useful in their jobs.

Sixty percent of the respondents noted membership in SLA. Just over a third admit member-

ship in ALA, but altogether, the respondents were members of more than 100 different professional organizations. Hackenberg notes that many of these associations were local or international groups.

Hackenberg's survey revealed that before going into science librarianship, many people thought the field would be more difficult because of the vocabulary. Many noted that they thought they could make a difference in this field, that they could utilize their science backgrounds, or that it would be no different from any other library. Many got into science librarianship so that they could work with high technology.

The results of Hackenberg's survey will be published in the September 2000 issue of *College & Research Libraries*.

**"Preparing Science and Technology Information Professionals in ALA-Accredited Programs: The More Things Change, the More They Stay the Same"**

Bob Williams conducted two surveys. The first concerned the placement of ALA-accredited library school graduates with science and technology undergraduate backgrounds, and the nature of the curriculum in ALA-accredited schools for specializing in science and technology.

Williams notes that examining library literature reveals that the fight for specialization in library schools has improved very gradually. He speculates that schools justify the lack of science and technology courses because:
—graduates of science fields can make more money in disciplines other than librarianship;
—specialization in library school is not possible or desirable;
—a well-trained librarian can provide excellent service without specialized degrees.

Williams surveyed fifty-six ALA-accredited library programs in the United States, Canada, and Puerto Rico. He was interested in how many specialized graduates each school produced, the type/subject library in which they were placed, and what percentage of them have undergraduate degrees in science and technology and which areas.

The response rate for this survey was low, with only twelve of the fifty-six schools (21 percent) responding. Of these, the average number of students having a science or technology specialization or interest was only 11 percent. Extending this number to all fifty-six schools would indicate that there are 553 graduates each year for science and technology library positions.

Information concerning placement of these graduates was also sparse. Numbers seemed to indicate that 39 percent of sci-tech graduates were placed in an academic setting, with another large percentage placed in corporate libraries. Graduates also began work in government, nonprofit, and public libraries and commercial information services. Nearly a majority of these graduates (45 percent) placed into a health sciences field. Fifteen percent went to engineering libraries, 11 percent placed in biology, and 8 percent placed in chemistry.

Of the students currently enrolled in the schools responding to Williams' first survey, an average of 5.6 percent have undergraduate degrees in science and technology. This figure seems to be lower than it used to be, but on the increase. Forty percent of these students have undergraduate degrees in biology. Other figures are: chemistry, 11 percent; engineering, 2 percent; environmental science, 2 percent; geology, 4 percent, health sciences, 21 percent; physics or astronomy, 0 percent; other sciences, 12 percent.
The second survey that Williams conducted involved examining the catalogs and course offerings of the ALA-accredited schools. Most catalogs were on the Web, so this meant a 100 percent response rate. Seventy-nine percent of the schools examined offered a science reference course. Only 4 percent offered two courses. This reflects the fact that many schools just do not

specialize. Twenty-three percent of the schools offer a health science reference course; 8 percent offer two; and one school offers three courses. Small percentages of schools also offer chemistry and engineering courses.

Williams notes that we should urge schools and the Association for Library and Information Science Education (ALISE) to take statistics on the backgrounds of incoming students and the placement of their graduates. Perhaps the divisions of SLA could help in this endeavor.

Schools in Williams' survey noted that students with sci-tech backgrounds often tend to specialize and are often the best students.

Mary Frances Lembo spoke of her work with the PAM and Sci-Tech Divisions' mentoring programs. The student relations committee's purpose is to foster communication between science librarians and library science students. In February 1998, the Sci-Tech newsletter published the results of a survey on how students become aware of sci-tech librarianship. Students were asked if they had a mentor in the division (35 percent yes; 62 percent no) and if contact with professional organizations influenced their decision to become a science librarian (9 percent yes; 91 percent no).

Students having mentors in the division wrote favorable comments about their experience, so the division formed a Mentoring Committee. The committee was to focus on students and those new to science librarianship, and to increase awareness of science librarianship. The mentoring program debuted at the 1998 Newcomer's Brunch, with seventeen mentors and thirty protégés signing up. The committee plans to increase participation by publicizing the program beyond the brunch.

The PAM mentoring program began in May 1999 as a result of a strategic planning survey. Sixty-six percent of the survey respondents placed mentoring in the top five priorities for the division (networking, programming, liaison, continuing education, mentoring). New members indicated that they would appreciate assistance in meeting other division members, learning how the division operates, and having a network of subject specialists to call on.

Goal three of PAM's strategic plan reads: "(P)rovide mentoring (and) professional development opportunities for all members." PAM decided to meet this goal by offering three broad programs: the buddy program, traditional mentoring, and an expertise database, which is a goal for the future. The buddy program was designed as a short-term pairing—an experienced member would be paired with a new member for the express purpose of guiding that new member in navigating the annual conference.

A brochure was sent out to division members; sixteen members (eight pairs of one mentor, one protégé each) expressed interest in participating in the mentoring program. The purpose of the mentoring program was to foster relationships between experienced and new members by utilizing monthly discussion questions, sharing activities or projects, and encouraging the protégés to ask questions (don't be shy!).

Michael Fosmire presented on his experience with the PAM division mentoring committee. He explained that the steps to creating an effective mentoring program were: mission, analysis of the target market (both protégés and mentors), needs assessment, and an action plan.

A mentoring program should have a mission statement that will allow for assessment of success and continuity; the mission statement should explain why the program exists. The PAM division's mentoring program's missions statement "facilitates one-on-one learning interactions between PAM members and the inclusion of new members in the activities of the division."

Who wants a mentor depends on the nature of the organization. The Sci-Tech division targets students, who are always looking for jobs, but

PAM often pairs beginning professionals, who are often interested in acquiring skills and learning reference materials, with more experienced members. In other words, different populations have different needs.

The next step in planning a mentoring program is to assess potential participants' needs. It is important to have buy-in from the top of the organization—the president, chair, or other experienced division members can help. Next, survey the members of the organization to assess the skills of potential mentors and the needs of potential protégés. The latter needs often include expanding subject competency; drawing on mentors' experience in challenging situations, networking, and job leads; and developing professional competencies such as management, supervision, publication, promotion, and tenure. A mentoring program is an excellent way to promote involvement in the organization and develop new leadership for the division.

The PAM division meets the needs of its protégés in two ways: the buddy program and traditional mentoring. The buddy program is a short-term relationship intended to provide the protégés with guidance on navigating the SLA annual conference. The buddy program provides networking opportunities, division involvement, introductions to vendors, and invitations to parties. The traditional mentoring program is intended to develop longer-term relationships, usually of a year or more. The mentor serves as a teacher, trainer, positive role model, developer of talent, and opener of doors. Mentoring is an individual, personalized experience that helps protégés develop as science librarians and grow into leaders. This longer-term relationship is what the mentor and protégé make of it—they spend as little or as much time on it as they need.

The two divisions assign mentor/protégé partners differently. Sci-Tech came up with a list of ten mentors and let the protégés pick their mentor based on their skills and availability. Drawbacks to this approach include a potential overload of mentors and a temporarily fixed pool of mentors.

PAM advertised for mentors and protégés at the same time. One person can be both a mentor and a protégé if he has both skills and needs. Advantages to this approach are a distribution of the workload among all participants and a one-to-one relationship that results in a high-quality mentorship. Disadvantages include lack of choice of partners and more work for the committee members.

To prepare participants, PAM sent out an introductory brochure, tips for mentoring, and a bibliography. Participants can ask for help from the committee, and to facilitate communication, the committee sends participants a "question of the month" that often results in discussion. Participants are also told that it's okay to change partners if the match isn't working out.

It is important to close the circle in the mentoring process: Mentors must be assessed to gauge the success of the program. The committee must solicit feedback from participants on what works and what does not.

An audience member inquired about the image of librarianship: If librarians have a bad image, why would science graduates want to become librarians? Responses from speakers and other audience members included: Scientists in laboratories get burned out and want to switch careers but maintain a science focus. One chemistry librarian proclaimed the love of the literature but not of being a chemist. Someone else mentioned the joys of searching.

Reporter: Cindi Trainor
Shaver Engineering Library
University of Kentucky

**When Work Hurts: Ergonomics in the Workplace**
**Sponsors: EBSCO, John Wiley & Sons**
**Cooperating division: Education**

Professional ergonomist Carol Stuart-Buttle visited a series of libraries in order to prepare specific examples for her talk about work environments. She reminded her audience that the science of ergonomics deals with design of the overall work environment, but given only an hour and a quarter, she would cover mainly computer-related situations in this session.

Point by point, and illustrating copiously with diagrams and slides of real settings, Stuart-Buttle covered areas of posture, repetition, force, vision and lighting, back support, noise, and distractions. She identified ideals, such as for posture and support, and discussed types of products available to adapt environments, such as to reduce monitor glare or control lighting. She addressed the myth of working through pain, and took responses from the audience about some of her slides to show that anyone can see with "ergo eyes" if we know what to look for.

Finally, Stuart-Buttle suggested that the title of the presentation indicated failure to observe basic ergonomic principles. If we get to the point where work hurts, we haven't been adapting the environment appropriate to our needs. One of the most basic needs for any worker is the power to control as much of his or her direct environment as possible—to make it fit the worker, instead of making the worker fit the environment

Reporter: Ann Koopman

**All-Sciences and Technologies Reception: Tacking Into the Future**
**Sponsor: ASME International, Dialog, Lexis-Nexis**

Cooperating Divisions: Biomedical and Life Sciences, Environmental and Resource Management, Information Technology, Materials Research and Manufacturing, Petroleum and Energy Resources, Pharmaceutical and Health Technology, Physics-Astronomy-Mathematics, Transportation

This reception, co-sponsored by several divisions, was a true highlight of the conference. The Independence Seaport Museum (http://www.libertynet.org/seaport/), located on Penn's Landing, offers many exhibits detailing maritime history. Of particular interest are the many interactive exhibits available to visitors. The galleries include several fascinating displays, including the bridge from a decommissioned naval vessel.

Attendees were greeted with a plethora of good food and beverage as well as soothing music. The wonderful repast was followed by a leisurely self-guided tour of the museum. However, the real excitement began when, at 7: 00 p.m., the doors were opened to the true gems of the museum: the USS *Becuna,* a World War II submarine, and the USS *Olympia,* Admiral Dewey's 1898 flagship at the Battle of Manila Bay during the Spanish-American War.

The tour of these two ships was simply fascinating. One began by going below into one torpedo room on the *Becuna* (http://www.geocities.com/Athens/Acropolis/7612/becuna.html) and walking through the ship, ending in the other torpedo room. How a whole crew fit into the cramped spaces of this boat is simply beyond me. Several areas of the ship were open for scrutiny, including the captain's cabin, wardroom, and heads. The cramped spaces and lack of windows were a bit disconcerting, to say the least!

The *Olympia* (http://www.maritime.org/hnsa-olympia.htm) was a beautiful ship with elegant woodwork and a powerful feel. The view from her bridge, with its plaque noting where Admiral Dewey stood when he gave the order, "You may fire when you are ready, Gridley," was truly impressive. The *Olympia* was decommissioned in 1921 when, on her last mission, she brought the body of the Unknown Soldier from France. She is the only remaining ship from the Spanish-American War fleets. The *Olympia's* spacious areas were in sharp contrast with those of the *Becuna.*

The reception was, in this humble reporter's opinion, a smashing success. Many thanks to Ann Koopman for arranging this excursion to one of Philadelphia's treasures!

Reporter: James E. Manasco
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**Field Trip: Hagley Museum and Library**
**Cooperating divisions: Information Technology and Transportation**

Thick fog prevented us from seeing the Camden, New Jersey, side of the Delaware River as we left Philadelphia and headed toward Wilmington to tour twenty-five miles into the Delaware River Valley. As we approached Barley Mill Road, flares lit up the highway to show intersections. Even through the fog, the Brandywine Valley was beautiful. That beauty, with the Brandywine Mill Stream that drops 124 feet in the last five miles as it surges down from the Welsh hills, and with the deposits of Brandywine granite, made an ideal spot to locate powder and woolen mills. This is "where the Du Pont story begins."

A scenic road leads to the first Du Pont home in America, Eleutherian Mills, built in 1802. Period furniture and a number of portraits reflect the Du Pont generations. The large kitchen looks primitive by today's standards, but it features a 1925 coal-processed gasoline stove. The garage contains three electric cars, including a black phaeton and a bright yellow model racer. Located high on the banks of the river, beautiful gardens and trees, including an Osage orange that is one of the largest in the country, surround the house. Meadows provide space for Friday-night fireworks, a popular event. The company's first field office, built near the house, was also constructed of the local granite.

With the house and gardens on a high spot, a buffer zone, as protection from explosions, exists before reaching the powder mills. In the Hagley yard (named for a location in England) stand several granite buildings with separate firewalls. A demonstration shows how the iron turbines started the waterpower flowing so that eight-ton wheels mixed the silver nitrate, black powder, and charcoal into gunpowder. Heavy moisture in the air limited the sample test to a slight pop.

After a delicious lunch in the Soda House, we toured the library archives, which contain trade journals, papers, and records of more than 1,000 companies, ranging from Du Pont to MCI, and including the Conference Board and the American Iron and Steel Institute. The library is a member of the Independent Research Libraries Association. Founded at Longwood, Pierre Du Pont's estate, it moved to the Hagley Museum site in 1961.

Library staff described the impressive business and technology collections. Numerous brochures amplified those interests. We looked at trade catalogs from companies as varied as Avon Products and Seagram. The library also contains a stellar collection of World's Fair materials. Cabinets in the lecture room contained United States patent models that belonged in the overcrowded Hagley Museum. The Web site provides the chance to share the wealth of the library's contents, for all the trade catalogs will eventually appear in the site, and to appreciate what the Hagley Museum and Library has to offer to the interested researcher. Go to www.hagley.org.

Reported by: Jean Z. Piety
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Cleveland Public Library
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**Field Trip: ISI Digitizing Facilities**
**Sponsor: ISI**
**Cooperating Division: Petroleum and Energy Resources**

Twenty-five of us, including one alternate, left for ISI's International Data Production (IDPO) facility at 9:10 a.m. on Thursday, June 15.

We arrived at the Cherry Hill, New Jersey, facility after only a thirty-five-minute ride, and were shown to the staff room, where we were given a short presentation describing the work performed at this location.

IDPO, with a twin site in Limerick, Ireland, is run on a manufacturing environment model. Its mission is to continuously review processes, procedures, and systems in order to improve data quality, production expediency, and operation efficiency.

Scanned articles are processed to retrieve titles, authors, author addresses, page spans, item types (there are twenty-six different item types including scores, obituaries, and editorials), keywords (97 percent of the items need additional keywords provided by ISI), e-mail addresses (growth from 5 percent in 1996 to 35 percent for the current year), and language codes. ISI began supplying author abstracts in 1991; 450,000 were processed in 1991, and that number has grown to more than 805,000 in 1999.

In 1999, ISI processed more than 60,000 journal issues with 8,613 separate titles. A total of 4,377 books were selected for the databases out of 13,500 received; 1,353,800 articles were processed, with 4,032,142 author names and 23,859,320 cited references indexed. These items generated 2,070,028 author addresses and 2,934,120 keywords.

All issues are received in the Cherry Hill facility for scanning because delivery is one to two days faster in the United States than in Ireland. The total processing time is fifteen days from receipt of the articles to product delivery, including the production of disks for mailing. Arts and Humanities processing is done in the Philadelphia offices.

IDPO prides themselves on a better than 99 percent accuracy rate for bibliographic data, cited references, and abstracts.

We were shown three different processing stations: optical scanning, item markup, and data entry. ISI uses a proprietary production system called Pegasus, which provides systematic work flow processing, a system-supported knowledge base, in-process and post-entry edit routines, E-journal production compatibility (customized for each title), and "key as you see" data capture.

There is very low turnover in processing staff. For the last ten years, there have been no new hires in the Cherry Hill facility, with the average length of service at sixteen years.

Future IDPO initiatives include introduction of these processing capabilities to all other ISI/Derwent editorial production systems and collaborative work with publishers to accelerate the transition from print to electronic-source journals.

We adjourned to a hosted lunch at a local country club, where we had the opportunity to ask questions of the ISI tour leaders (at least three for each table).

Reported by Bonny Hilditch
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# NEW SCIENCE AND TECHNOLOGY JOURNALS

**Earl Mounts, Editor**
**Linda Musser, Assistant Editor**

*Crystal Growth and Design*. 1528-7483. Editor: Robin D. Rogers. American Chemical Society. v.1, 2001. http://pubs.acs.org/journals/cgdefu/index.html

*Crystal Growth & Design*, a new journal from the American Chemical Society dedicated to publishing articles on the physical, chemical, and biological phenomena and processes related to crystal growth and the design of new materials, will encourage synergistic approaches originating from different disciplines and technologies and integrating the fields of crystal growth, crystal engineering, and the study of intermolecular interactions.

Fundamental aspects of crystal growth as well as the prediction of crystal structure, properties, and design of new materials will be emphasized. (EM)

*Geofluids*. 1198-743X. Editors: Grant Garven, John Parnell, Bruce Yardley.

Blackwell Science. v.1, 2001. 6/yr. $297.00. www.blackwell-science.com/gfl.

Focused on earth scientists, *Geofluids* will report original research in the role of fluids in the mineralogical, chemical and structural evolution of the Earth's crust. *Geofluids* emphasizes both chemical and physical aspects of subsurface fluids throughout the Earth's crust (although excluding silicate melts) and spans studies of groundwater, terrestrial or submarine geothermal fluids, basinal brines, petroleum, metamorphic waters or magmatic fluids, but requires relevance to processes that are significant on a geological time scale. (LM)

*IEEE Microwave Magazine*. 1527-3342. IEEE. v.1, 2000. 4/yr. $175.

http://shop.ieee.org/store/Overviews/periodicals.asp#list

This new publication features application and tutorial articles on microwave topics. Also of interest are reviews of books and conferences, insights by an expert columnist, and articles on special microwave areas. (EM)

*IEEE Transactions on Intelligent Transportation Systems*. 1524-9050. Editor: Chelsea C. White III. IEEE. v.1, 2000. 4/yr. $455.

http://shop.ieee.org/store/Overviews/periodicals.asp#list

This publication focuses on the design, analysis, and control of information technology as it is applied to transportation systems, including vehicles and infrastructure. The emergence of new technologies—such as sensors, communications, low-cost and faster computation, and new control and optimization algorithms—provides opportunities to substantially improve efficiency, safety, and environmental impact. (EM)

*International Journal of Phytoremediation*. 1522-6514. Editor: Guy R. Lanza. CRC Press. v.1, 1999. 4/yr. $340.00. www.crcpress.com/jour.

The state of the art in phytoremediation is changing rapidly. Every day we make progress in our understanding of how to use naturally occurring and genetically engineered plants for remediating contaminated air, soil, and water environments. Every day we learn

something new about all aspects of phytoremediation, including enhanced rhizosphere biodegradation, phytoextraction (including rhizofiltration), phytodegradation, and phytostabilization. This journal will include case studies, patent and product descriptions, research studies, testing and applications reports related to the use of plants in the treatment of hazardous waste and contaminants. (LM)

*Journal of Molecular Microbiology and Biotechnology*. 1464-1801. Editor:
Milton H. Saier. Horizon Scientific Press. v.1, 1999. 4/yr. $480.00.
www.horizonpress.com/jmmb/.

*The Journal of Molecular Microbiology and Biotechnology* (JMMB) publishes research papers in the fields of molecular microbiology and biotechnology particularly as it relates to genomics. It also features written symposia on unified topics, timely reviews, minireviews, and a section devoted to correspondence and comments. JMMB provides a medium for the amalgamation of the disciplines of molecular microbiology and biotechnology in the genomics era. (LM)

*Practical Failure Analysis*. 1529-8159. Editor: McIntyre R. Louthan, Jr. ASM International. v.1, 2001. 6/yr. $400.00.
www.asm-intl.org.

*Practical Failure Analysis* will contain both peer-reviewed and non-peer reviewed articles focusing on tools and information useful in determining the causes of failures and methods to reduce failures. This publication will be of interest to both the experienced and less experienced failure analysis practitioner with a focus on shared interest across the industries. It will highlight information gathering techniques, technical analysis, and emerging tools that will assist the failure analyst. The peer reviewed portion of the journal will also feature articles demonstrating the importance of failure analysis product/performance improvement and industrial problem solving. (LM)

## SCI-TECH BOOK NEWS REVIEWS

### Ellis Mount, Selector

The following section consists of 100 book reviews selected from the June 2000 issue of *Sci-Tech Book News*, reprinted with the permission of Book News Inc. This review journal is published four times a year, each issue reviewing over 2,000 new titles in the physical and biological sciences, mathematics, engineering, computer science, technology and agriculture. For a sample issue and subscription information, contact Book News Inc. at 5739 NE Sumner Street, Portland, Oregon 97218. Ph: (503) 281-9230;Fax:(503) 287-4485; E-mail: erskine@booknews.com. You can also reach Book News at <http://www.booknews.com>

### GEOGRAPHY, HYDROLOGY, ENVIRONMENT

G70 99-14147 1-57504-135-9
**Mathematical principles of remote sensing; making inferences from noisy data.**
Milman, Andrew S.
Ann Arbor Press, 1999 406 p. $59.95
Introduces the philosophy, mathematical methods and ways of thinking behind inferring the physical properties of planets and stars by measuring the radiation they emit. The author, who has done work for NASA, offers a systematic treatment of the mathematics involved in making inferences from imperfect data to provide a basis for remote sensing as a discipline. The heart of the book discusses matrix methods that are used in inverting systems of linear equations, integral equations which provide an alternative viewpoint to the matrix approach, and iterative methods for inverting systems of linear or nonlinear equations.

### PRODUCTION, INDUSTRY, COMMERCE

HD9696 00-20112 0-13-019195-7
**IT services; costs, metrics, benchmarking, and marketing.**
Tardugno, Anthony F. et al. (Enterprise computing series)
Prentice Hall, 2000 201 p. $39.99
A guide to satisfying consumers of a company's IT services and building loyalty. Reveals how to establish processes, service and cost models, and performance measurements, and how to transform goals into reality. Links goal-setting, process development, and metrics to the goals of the enterprise, and gives advice on gaining buy-in from management, internal customers, and external suppliers. Applicable to both in-house and outsourced operations. Tardugno is manager of site manufacturing information technology at a division of Xerox.

HF5548 99-22245 0-13-975285-4
**Electronic commerce; a managerial perspective.**
Title main entry. Ed. by Efraim Turban et al.
Prentice Hall, 1999 520 p. $60.00
Describes what electronic commerce is, how it is being conducted and managed, and its major opportunities, limitations, issues, and risks, taking a managerial orientation and interdisciplinary approach. Contains sections on applications, supporting electronic commerce, technological infrastructure, and advanced topics like global electronic commerce and future directions. Includes chapter summaries, key words, review and discussion questions, Internet exercises, and team exercises, plus real-world cases. The editor is affiliated with City University of Hong Kong.

## SCIENCE (GENERAL)

Q130 99-20357 1-57331-167-7
**Women in science and engineering; choices for success; proceedings.**
Choices and Successes: Women in Science and Engineering (1998: New York, NY). Ed. by Cecily Cannan Selby. (Annals of the New York Academy of Sciences; v.869) N.Y. Academy of Sciences, 1999 261 p. $40.00 (pa)
Some 30 presentations that are the results of the March 1998 conference exploring not only how women can adapt to existing institutional systems, but also how those systems can and should be changed to allow women greater success in scientific and engineering endeavors. Papers explore the nature of the work, the workplace, and incentives; private sector, government, and academic policies; and future trends and possibilities.

Q172 0-7382-0049-2
**Unifying themes in complex systems; proceedings.**
International Conference on Complex Systems (2nd: 1998: Nashu, NH). Ed. by Yaneer Bar-Yam. (New England Complex Systems Institute series on complexity)
Perseus Publishing, 2000 655 p. $60.00
The participants being from a wide range of disciplines, many of the 55 papers are concerned with introducing basic concepts of an approach to science that acknowledges the possibilityùindeed the likelihoodùof multiple causes and consequences of events and actions. All the talks but two of the plenary addresses are transcribed, and those two are represented by formal papers. Subjects are not indexed.

## MATH, COMPUTERS

QA76.575 99-47137 0-8493-3491-8
**Image and video compression for multimedia engineering; fundamentals, algorithms, and standards.**
Shi, Yun Q. and Huifang Sun. (Image processing series)
CRC Pr., 2000 480 p. $89.95
In this maiden volume launching an image processing series, the focus is on the basics of digital image sequence processing that is so attractive for commercial multimedia applications. Intended to serve as a senior/graduate-level text, its 20 chapters divided into four sections cover the fundamentals; and the mathematics, practical challenges, and standards of still image compression, motion estimation and compensation, and video compression. Includes b&w video frame examples and exercises without an answer key. Shi is with the New Jersey Institute of Technology, Newark, and Sun is at the Mitshubishi Electric Information Technology Center, America Advanced Television Laboratory, New Providence, NJ. The book was the basis for a well-received short course on the topic at Nanyang Technological U. in Singapore in 1999.

QA76.9 99-89334 0-7923-7746-X
**Data mining using grammar based genetic programming and applications.**
Wong, Man Leung and Kwong Sak Leung. (Genetic programming series; GPEM 03)
Kluwer Academic Pubs., 2000. 213 p. $115.00
Describing data mining as the non-trivial extraction of implicit, previously unknown, and potentially useful information from databases, Wong (Lingnan U., Hong Kong) and Leung (Chinese U. of Hong Kong) first review the principles behind it and behind evolutionary algorithms and inductive logic programming. Then they introduce a framework they call Generic Genetic Programming that integrates genetic and inductive programming based on a formalism of logic grammars. It is powerful enough to represent context-sensitive information and domain-dependent knowledge that can be used to accelerate the learning speed and improve the quality of the knowledge induced. They conclude by detailing their grammar-based programming system LOGENPRO and test it on many problems in data mining.

QA76.9 00-21300 0-201-37937-6
**The humane interface; new directions for designing interactive systems.**
Raskin, Jef.
Addison-Wesley, 2000 233 p. $24.95 (pa)
Raskin (best known as the creator of the Apple Macintosh project) describes flaws in current machine-human interface structures and offers advice on how to fix them. Proceeding from basic facts about how human consciousness interacts with the outside environment, through simple technologies such as radios, to computers, he looks at a number of aspects of interface principles covering keyboards, mouses, screen configuration, and menu bars.

QA76.9 99-89328 0-7923-7761-3
**Security of data and transaction processing.**
Title main entry. Ed. by Vijay Atluri and Pierangela Samarati. (Distributed and Parallel Databases; v.8, No.1 (2000))
Kluwer Academic Pubs., 2000 141 p. $99.95
Brings together four research papers in the field. Addresses the problem of providing countermeasures for repairing a database whose integrity has been compromised by malicious transactions, and investigates performance implications of guaranteeing secrecy in multilevel secure real-time database systems supporting applications with firm deadlines. Proposes a secure agent-based payment system for mobile computing on the Internet, and presents an approach to providing remote and distributed applications which access multiple sources while preserving security and autonomy. The editors are affiliated with Rutgers University and SRI International. This is a special issue of Distributed and Parallel Databases, v.8, no.1, 1999.

QA276 99-57753 0-8247-9029-4
**Statistics for the 21st century; methodologies for applications of the future.**
Title main entry. Ed. by C.R. Rao and Gßbor J. Sz kely. (Statistics; textbooks and monographs; v.161)
Marcel Dekker, 2000 483 p. $175.00
A collection of 21 articles, most of which were presented at the Eighth Lukacs Symposium (Bowling Green State U., exact date not noted) that describe the current state of statistical methodology in different areas of application and discuss future lines of research. Among the topics presented by Rao (statistics, Pennsylvania State U.) and Sz kely (statistics, Bowling Green State U.) are new concepts such as data mining and machine learning, categorical data analysis, the future of statistics education, explanations of sequential bootstrap, and higher order asymptomatics.

## TECHNOLOGY (GENERAL)

T55 99-43796 1-56670-355-7
**Emergency response to chemical and biological agents.**
Cashman, John R.
Lewis Publishers, 2000 347 p. $79.95
Presents a framework for emergency response to terrorist and criminal acts. The book first lists data necessary for dealing with blister agents, blood agents, nerve agents, pulmonary agents, and potential biological warfare agents. A series of recent case studies and interviews with police and fire department officials then illustrates responses by both local and state hazardous material teams to incidents involving biological, chemical, and nuclear agents. Appendices provide an MSDS for mustard gas, selected laws related to terrorism, and a sample jurisdiction emergency operations plan.

T60 99-24393 1-890871-07-9
**Work design; industrial ergonomics, 5th ed. (disk included)**
Konz, Stephan and Steven Johnson.
Holcomb Hathaway, Pub., 2000 642 p. $77.50
New edition of a text with enough material for a two-semester course, and useful beyond the classroom as a reference. After overview and history chapters, coverage is arranged in sections on the design process, scientific background, work environments, time determina-

tion, and implementation of design. Each of the 35 chapters has review questions and references, and the new edition includes a disk with relevant software of various sorts, including ergonomic forms, NIOSH lifting calculations, shiftwork evaluations, and laboratory exercises on inspection, reaction time, and measurement. Konz is with Kansas State University; Johnson, U. of Arkansas.

T178 99-29392 0-08-043575-0
**The strategic management of high technology contracts; the case of CERN; competence based and transaction cost perspectives.**
Nordberg, Markus and Alain Verbeke. (Technology, innovation, entrepreneurship, and competitive strategy series)
Pergamon Pr., 1999 194 p. $70.00
Based on manufacturing contracts commissioned by the European Laboratory for Particle Physics (CERN) in Geneva, Nordberg (CERN) and Verbeke (business, Free U. of Brussels) examine the design of efficient buyer-supplier contracts within the institutional boundaries faced by the buyer, focusing on vertical buyer-supplier linkages as a source of supplier core competencies in an environment driven by cost and technology. They particularly investigate what is the most efficient governance structure for organizing buyer-supplier relations within the specific context, and what type of impact would technology- oriented government contracts have on supplier core competencies. The treatment might interest economists and managers in high technology industries and public organizations.

T385 99-46397 0-7668-1484-X
**Designing Web site images; a practical guide.**
Berryhill, Gene.
Delmar Pub., 2000 265 p. $33.95 (pa)
An instructional guide to Web object design, covering creation and handling of graphics for the Web. Gives step-by-step instructions on areas including image management strategies, compression, palettes, graphic creation and manipulation, conversion, and Photoshop's techniques for animation. Emphasizes striking a balance between artistic quality and compression for creating Web sites that look great and function well on the Internet. Includes projects and a glossary, plus lists of online tutorials and resources.

## ENGINEERING (GENERAL, CIVIL)

TA165 99-43783 0-8493-0047-9
**Mechanical variables measurement; solid, fluid, and thermal.**
Title main entry. Ed. by John G. Webster.
CRC Pr., 2000 — p. $79.95
Engineers from Oceana, North America, and western and eastern Europe provide a reference for engineers in industry, designers, managers, researchers, and students who have measurement problems. They describe the use of instruments and techniques for practical measurements required in engineering, physics, chemistry, and the life sciences. Among them are sensors, hardware and software, information processing systems, automatic data acquisition, reduction, and analysis. The articles include specialized information for specialists seeking an advanced application, evaluative opinions, and possible areas for future study; they start however with basic concepts that even high school students who have taken algebra can understand.

TA350 0-8493-0056-8
**Mathematics for mechanical engineers.**
Ames, William F. et al.
CRC Pr., 2000 221 p. $49.95
A reference for practicing engineers to the essential problem solving mathematical tools used everyday. For the engineer venturing out of familiar territory, some chapters cover fundamentals such as physical constants, derivatives, integrals, Fourier transforms, Bessel functions, and Legendre functions. For the experts, there are sections on the more advance topics of partial differential equations,

approximation methods, and numerical methods often used in applications, and a review of statistics for analyzing data and making inferences.

TA357 99-45286 1-56700-139-4
**Flow rate measurement in multiphase flows.**
Kremlevskii, P. P.
Begell House, 2000 262 p. $94.50
Focuses primarily on techniques for measuring the flow rate of two- phase systems, such as liquid or gas mixtures with a solid phase, and liquid mixtures with a gas or vapor. The principal characteristics and structures of two-phase media are considered first, followed by a discussion of the methods and means of measuring their flow rates. Next come the techniques of measuring the flow rate of three- and four-component mixtures. A separate chapter is devoted to the metering of loose substances. The final chapters review the instrumentation for measuring the flow rate of molten metals, and for calibrating and testing the instruments that measure flow rates.

TA405 99-43425 0-471-33176-7
**Mechanics of materials**. 2d ed. (CD-ROM included)
Craig, Roy R.
John Wiley & Sons, 2000 752 p. $113.95
New edition of a text that introduces the mechanics of materials, an engineering subject that also is described as the mechanics of solids, of deformable bodies, and strength of materials. Craig (ASE-EM Department, U. of Texas) presents a systematic four-step problem-solving method that helps the student to discover how fundamental concepts underlie all the applications presented, and how to identify the equations needed to solve various problems. Detailed example problems show how to organize solutions and think like practicing engineers. The included CD-ROM covers a broad range of topics and contains 90 special MDSolids example problems.

TA409 99-65487 1-85312-625-X
**Analysis of cracks in solids.**
Title main entry. Ed. by A.M. Khludnev and V.A. Kovtunenko. (Advances in fracture mechanics; 6)
WIT Press, 2000 386 p. $195.00
Khludnev and Kovtunenko (Russian Academy of Sciences) propose models for cracks in elastic and nonelastic bodies satisfying physically suitable non-penetration conditions between crack surfaces. Two- and three-dimensional bodies, plates, and shells with cracks are considered. Designed for use by postgraduate students, scientists, and engineers, the book covers the following topics: properties of solutions in contact problems for elastic plates and shells having cracks; analysis of crack shape variations in solids; existence of solutions for elastoplastic bodies with cracks; and iteration schemes and approximate methods of solving boundary value problems for solids with cracks. Distributed by Computational Mechanics, Inc.

TA409 98-84459 1-85312-507-5
**Computational fracture mechanics in concrete technology**.
Title main entry. Ed. by Alberto Carpinteri and Mohammad Aliabadi. (Advances in fracture mechanics; v.3)
Computational Mechanics,1999 223 p. $149.00
Contributors describe seven recent computational approaches based on fracture mechanics for the structural analysis of concrete and reinforced concrete. Approaches considered are numerical lattice models, computational damage mechanics, continuum damage applications, an integral equation method, a discrete crack numerical model, a boundary element method, and a model of creep crack growth. Distributed in North America by Computational Mathematics, Inc.

TA409 99-45439 0-7506-7315-X
**Fracture and fatigue control in structures; applications of fracture mechanics,** 3d ed. (reprint of ASTM ed.)

Barsom, John M. and Stanley T. Rolfe.
Butterworth-Heinemann, 1999 516 p. $89.95
Emphasizes applications of fracture mechanics to prevent fracture and fatigue failures in structures, rather than the theoretical aspects of fracture mechanics. The concepts of driving force and resistance force are used to differentiate between the mathematical side and the materials side. Case studies of actual failures are new to the third edition.

TA418 99-32460 0-7680-0453-5
**Multiaxial fatigue.**
Socie, Darrell F. and Gary B. Marquis.
Soc./ Automotive Engin'rs, 2000 484 p. $69.00
Socie (mechanical engineering, U. of Illinois-Urbana-Champaign) and Marquies, an engineer in charge of experimental and analytical fatigue research in Finland, introduce practicing engineers, researchers, and students to fatigue damage and processes and models for components that will undergo loading along more than one axis. They assume readers have a basic background, but not particularly expertise, in engineering mechanics and the fatigue damage process under uniaxial loading. Most of the models and data were generated for metallic material, but the concepts can be exported to ceramic, composite, or other material.

TA418 99-61903 1-56676-802-0
**Polymer Composites; infrastructure renewal and economic development; proceedings.**
Conference on Polymer Composites (1999: Parkersburg, W. Va.) Ed. by Robert C. Creese and Hota GangaRao.
Technomic Pub. Co., 1999 173 p. $74.95
The purpose of the conference was to launch a composites infrastructure industry by identifying and exploring new applications in such areas as mining, bridges, sewers, water pipes, offshore exploration and dwellings, and power transmission. The 18 papers discuss the economic impact of polymer composites for infrastructure applications, manufacturing polymer products for infrastructure, economic issues facing producers and users, and the future of the industry. There is no subject index.

TA418 90-5809-210-0
**Site characterisation practice; proceedings.**
International Conference on Rock Engineering Techniques for Site Characterisation (1999: Bangalore, India). Ed. by P.C. Jha & R.N. Gupta.
A.A. Balkema, 2000 621 p. $75.00
Contains papers from a December 1999 conference on overcoming the pitfalls of surface and subsurface constructions, by experts on rock engineering techniques in geophysical, geological, geotechnical, civil, and mining engineering applications. Some 80 papers are arranged in sections on modern investigation techniques for site characterization, applications in tunnelling and excavation, geophysical methods in site characterization, laboratory testing methods, numerical modeling applications, site characterization in coal mines, and case studies. Lacks a subject index. The editors are affiliated with the National Institute of Rock Mechanics.

TA442 99-39814 0-8493-2277-4
**Engineered concrete; mix design and test methods.**
Kett, Irving. (Concrete technology series)
CRC Pr., 2000 169 p. $79.95 (pa)
By offering an analysis of mixing and testing methods, this book seeks to help engineers and laboratory technicians gain a better understanding of Portland cement and Portland cement concrete. It includes explanations of how concrete batches are designed, mixed, and measured for various consistencies and details the tests of the primary component materials. It also offers concrete testing procedures for different strength parameters in conformity with the standards of the American Society for Testing Materials. While focusing primarily on Portland cement, the book also includes infor-

mation on other hydraulic cementitious materials and additives. Kett is a professor of civil engineering at California State University, Los Angeles.

TA455 99-55018 0-444-10030-X
**Ceramics and ceramic composites; materialographic preparation.**
Elssner, G. et al. Trans. by Randall Wert.
Elsevier, 1999 175 p. $96.50
Two scientists from the Max-Planck Institute for Metallurgy and two more from private industry present a guide to the whole process of characterizing ceramic material at the microscopic level, from preparing the specimen to interpreting the results. Particularly they provide fundamental information on preparing polished sections, including the main steps of sampling; sectioning; mounting and impregnation; and mechanical grinding, lapping, and polishing. Then they describe etching or contrast enhancement after final polishing to reveal the microstructure, and imaging in optical and scanning electron microscopes. The account is not indexed, and no information is provided about a possible earlier German edition.

TA460 99-63947 1-85312-700-0
**Linear and nonlinear crack growth using boundary elements.**
Cisilino, Adrißn. (Topics in engineering; v.36)
WIT Press, 1999 190 p. $126.00
Cisilino (U. of Mar del Plata, Argentina) brings together descriptions of three-dimensional boundary elements methods to analyze fatigue crack problems in linear and nonlinear fracture mechanics. In order to overcome the mathematical degeneration associated with the solitary use of the displacement boundary integral equation for cracked bodies, he depicts methods that rely on formulations based on two independent boundary integral equations: the dual boundary element method. He particularly describes accurate algorithms for evaluating singular and near-singular integrals in the dual equations. Among his topics are elastoplastic problems, using the energy domain integral, and full- penetration welded joints. He has not indexed his work. Distribution in North American is by Computational Mechanics, Inc.

TA480 99-41789 0-87170-632-6
**Properties of aluminum alloys; tensile, creep, and fatigue data at high and low temperatures.**
Title main entry. Ed. by J. Gilbert Kaufman.
ASM International, 1999 305 p. $181.00
A compilation of data collected and maintained for many years as the property of a large aluminum company, which decided in 1997 to make it available to other engineers and materials specialists. In tabular form, presents data on the tensile and creep properties of eight species of wrought alloys and five species of cast alloys in the various shapes used in applications. Then looks at the fatigue data for several alloys under a range of conditions and loads. The data represent the typical or average findings, and though some were developed years ago, the collection is the largest and most detailed available. There is no index.

TA590 99-49722 0-7844-0374-0
**Topographic surveying.**
Title main entry. (Technical engineering and design guides as adapted from the U.S. Army Corps of Engineers; no.29)
Am. Soc. Civil Engineers, 1999 96 p. $40.00 (pa)
Presents new electronic surveying methods that have changed conventional procedures in topographic surveying. Establishes procedural guidance, specifications, and quality control criteria for performing field topographic surveying in support of planning, engineering and design, construction, and environmental restoration activities. Covers field survey techniques used in performing topographic surveys with modern electronic total stations and electronic data collectors, and includes procedures for transferring field data to computer-aided drafting and design systems or geographic information systems.

TA646 99-46356 0-7844-0457-7
**Structural design for physical security; state of the practice.**
Title main entry. Ed. by Edward J. Conrath et al.
Am. Soc. Civil Engineers, 1999 250 p. $24.00 (pa)
This report provides guidance to structural engineers in the design of structures to resist the effects of terrorist bombings, and in the retro- fitting of existing structures. Eight chapters out- line the steps commonly followed in this practice.

TA660 99-58165 0-8247-8589-4
**Handbook of storage tank systems; codes, regulations, and designs.**
Title main entry. Ed. by Wayne B. Geyer.
Marcel Dekker, 2000 347 p. $150.00
Commencing with the confident statement that "the storage of hazardous liquids has never been more reliable," this reference by 20 North American experts on standards, manufacturing, installation, and specification of storage tank systems considers advances in the field as well as old problems to ensure that the industry supports ever-higher standards of performance for storing petroleum and chemicals. The initial seven chapters provide a historical perspective on storage systems, their regulation, and the issue of whether "to bury or not to bury." The remaining 17 chapters branch into sections on underground and aboveground storage tanks. Appends regulations, codes, standards, and recommended practices applicable to underground and aboveground storage tanks; related information; and contacts. The editor is with the Steel Tank Institute, Lake Zurich, IL, an international trade association representing tank manufacturers.

TA660 99-48257 0-8493-2395-9
**Structural mechanics of buried pipes.**
Watkins, Reynold King and Loren Runar Anderson.
CRC Pr., 2000 444 p. $99.95
Favoring the fundamentals of engineering mechanics and scientific principles over complex theories, Watkins and Anderson (both in engineering, Utah State U., Logan) provide a tutorial primer for designers of buried pipesùless costly, less hazardous, and less environmentally offensive than other media of transportation. In 30 well-organized and well-illustrated chapters, they cover all aspects of pipeline engineering from preliminary ring design to the economics of buried pipes and tanks. Includes worked examples and problems to be solved. Appends material on Castigliano's equation, reconciliation of formulas for ring deflection, similitude, a historical sketch of pipeline engineering, stress analysis, and strain energy analysis.

TA1750 99-65284 0-12-774810-5
**Photorefractive optics; materials, properties, and applications.**
Title main entry. Ed. by Francis T.S. Yu and Shizhuo Yin.
Academic Press, 2000 570 p. $85.00
Sixteen chapters present the fundamental aspects and the recent advances of photorefractive optics, particularly potential applications in the area of informational infrastructures. The volume begins with the standard photoreactive models, optical properties, wave mixing, hologram formation memories, three-dimensional data storage dynamic, interconnections, space-time processing, and application of photoreflective material to wavefront connection and to femtosecond lasers. The final chapter discusses the dynamic process of photoreflective fibers.

## HYDRAULIC ENGINEERING

TC176 90-5410-498-8
**Groundwater flow and contaminant transport in carbonate aquifers.**
Title main entry. Ed. by Ira D. Sasowsky and Carol M. Wicks.
A.A. Balkema, 2000 193 p. $60.00
Carbonate aquifers are an important source of

water around the world, but are hard to understand because rock dissolution leads to caves and channels and therefore complex flow pathways and unpredictable contaminant behavior. Here geologists explain a wide range of techniques for studying the flow of water through such layers for the benefit of engineers and hydrogeologists, and also for biological scientists wondering what endangered creatures might be living down there. General theory and approaches are followed by specific methods such as tracers, hydrograph and hydrochemograph evaluation, estimating aquifer properties from outcrop studies, numerical and analog simulation,
and the three-dimensional visualization of conduits.

## ENVIRONMENTAL TECHNOLOGY

TD17600-22905 0-8247-0390-1
**Regulatory chemicals handbook.**
Spero, Jennifer M. et al. (Chemical industries; v.80)
Marcel Dekker, 2000 1036 p. $195.00
Chemical engineers have assembled a hefty reference with data on 750 hazardous air pollutants, priority water pollutants, and chemicals listed by the US Occupational Safety and Health Administration, the three main classes of hazardous materials. An appendix listing chemicals by Chemical Abstracts Service registry number refers to entries in the primary alphabetical section. Among the information provided is chemical formula; identification numbers; synonyms; physical, chemical, and biological properties; bioaccumulation; origin, industry, sources, and uses; toxicity; exposure routes; regulatory status; probable fate; treatability and removability; and key references.

TD20199-13015 1-57278-152-1
**Wastewater collection systems management,** 5th ed.
Title main entry. Ed. by Task Force on Wastewater Collection Systems Management. (WEF manual of practice; no.7)
Water Environment Federation, 1999
244 p. $70.00
Serves as a systems guide and includes principles of operation and management in an effort to assist collection systems managers in establishing or reorganizing their systems operations. Offers procedures, practices, and guidelines for operating, maintaining, and establishing or reestablishing wastewater collection systems as dependable public utilities. Topics include basic policies, routine operations, preventive maintenance, emergency service and repairs, recordkeeping, training, and capital asset management. Prepared by committees of the Water Environment Federation.

TD42899-048557 1-57278-155-6
**Prevention and control of sewer system overflows,** 2d ed.
Title main entry. (WEF manual of practice; FD;17)
Water Environment Federation, 1999
386 p. $92.00
A task force of the Federation provides a practical guide to help municipalities or agencies develop a framework within which to solve problems of combined sewer and sanitary sewer overflow. It discuss research approaches for a pollution abatement program; review treatment and control technologies currently in use; evaluate current technologies and their positive and negative features; assess design guidelines for storm considerations, facility location, effects on receiving streams, and clean water goals; analyze case studies of systems actually up and running; and explore emerging technologies. The member price is $69.

TD74599-52047 1-56670-515-0
**Wastewater treatment.**
Title main entry. Ed. by David H.F. Liu and Bela G. Liptak.

Lewis Publishers, 2000 457 p. $79.95
The 11 chapters by engineers from both major corporations and universities cover sources and characteristics; monitoring and analysis; sewers and pumping stations; equalization and primary treatment; conventional biological treatment; secondary treatment; advanced or tertiary treatment; organics, salts, metals, and nutrient removal; chemical treatment; sludge stabilization and dewatering; and sludge disposal. Schematic drawings of equipment and devices explain the technology and techniques. Numerous tables, diagrams, step-by-step instructions and flow charts are also provided.

TD74699-26919 1-57278-154-8
**Natural disaster management for wastewater treatment facilities.**
Title main entry. Prepared by Task Force on Natural Disaster Management for Wastewater Treatment Facilities. (A special publication)
Water Environment Federation, 1999
119 p. $75.00 (pa)
Provides wastewater treatment plant managers and other responsible parties with an idea of what disturbances to expect during a variety of natural disasters. The initial chapters discuss general preparedness issues, followed by chapters addressing earthquakes, floods, and hurricanes. In each type of disaster, the physics, vulnerabilities, and expected damage involved is discussed in detail. The final two chapters address last minute planning and the creation and execution of an emergency or disaster plan. Appendices provide seven case studies from the US of recent disasters, including background, emergency preparedness system, damage, short- and long- term repair efforts, and lessons learned.

TD87899-30444 1-56670-464-2
**Soil vapor extraction using radio frequency heating; resource manual and technology demonstration.**
Title main entry. Ed. by Donald F. Lowe et al. (AATDF monograph series)
Lewis Publishers, 2000 328 p. $89.95
When soil is heated by applying electromagnetic energy in the radio frequency (RF) range, the vapor pressures of contaminants are increased, allowing the application of soil vapor extraction (SVE) to soils contaminated with semivolatile organic compounds (SVOCs). However, viability and cost effectiveness concerns had remained unanswered. In response, this volume reports detailed scientific and engineering information obtained from a recent technology demonstration performed under the Advanced Applied Technology Demonstration Facility program, which was established at Rice University by the Department of Defense. The databases, equations and example calculations necessary for RF-SVE applications are included.

TD87899-29056 1-56670-465-0
**Steam and electroheating remediation of tight soils.**
Dablow, John F. et al. (AATDF monograph series)
Lewis Publishers, 2000 410 p. $69.95
Presents results of a field study testing the cleanup of semi-volatile fuels from tight soils, using a combination of hydraulic fracturing and soil heating technologies. Offers design criteria developed from field performance data, summarizes the field test and its results and conclusions, and discusses possible uses for in situ technology at future sites. This information will help environmental professionals evaluate the application of this technology to potential sites and provide realistic design considerations. The author provides technical support to project managers employing thermal processes.

TD89799-47203 1-56670-495-2
**Pollution prevention; the waste management approach for the 21st century.**
Dupont, R. Ryan et al.
Lewis Publishers, 2000 498 p. $89.95
A preventative approach to environmental management is a relatively new concept requiring attention to energy conservation and health,

safety, and accident prevention issues as well as waste treatment, according to Dupont (civil and environmental engineering, Utah State U.) and two colleagues. Part I introduces definitions; conservation laws and basic principles; and plant equipment, processes, and economic considerations. The next section presents pollution prevention principles and regulations. The final part addresses applications via case studies. Includes worked and unworked problems. Appends information on units, conversion factors, and mathematical symbols; US state pollution prevention programs; environmental organizations; relevant software; and contacts in education.

TD89899-35803 1-57477-082-9
**The Chornobyl accident; a comprehensive risk assessment.**
Poyarkov, Victor et al.
Battelle Press, 2000 271 p. $34.95
Ukrainian and Russian scientists who have been involved with the Chornobyl nuclear power plant since the April 1986 accident present a comprehensive report on the accident. They also offer a risk assessment of the remains of the destroyed reactor and its surrounding shelter, Chornobyl radioactive waste storage and disposal sites, and the environmental contamination in the region. Their findings can help develop measures against risk at that site and others.

TD1030 98-43722 0-86587-609-6
**Hazardous waste analysis.**
Que Hee, Shane S.
Government Institutes Inc., 1999 832 p. $99.00
An introduction to the identification and analysis of hazardous waste, from cradle to grave. The 25 chapters discuss general legal and health requirements, legal identification of hazardous waste and basic chemistry concepts, sampling and field analysis, and laboratory chemical analysis of hazardous waste. Topics include, among others, labeling, packaging, and placarding for storage and transport; OSHA and other regulations, industrial hygiene, and training for generators; hazardous waste transporters; treatment, storage, or disposal operations; legal identification; ignitability, corrosivity, reactivity, and toxicity characteristics; scientific and legal measurement concepts; implementation of field sampling and analysis; direct-reading methods; integrated sampling; and chromatography. Hee is professor and former vice-chair of the Department of Environmental Health Sciences at UCLA.

TD1030 1-56670-512-6
**Hazardous waste and solid waste.**
Title main entry. Ed. by David H.F. Liu and Bela G. Liptak.
Lewis Publishers, 2000 273 p. $59.95
Explores municipal waste reduction, material recovery, and refuse- derived fuel within a catalog of options for solid waste. Covers unique problems in risk assessment, including the Hazard Ranking System and the National Priority List, and transport of hazardous materials. Addresses sources of hazardous and solid waste, detection, and recovery, and supplies information on quantities of waste generated and discarded. Accessible to both environmental professionals and those outside the field. Liu was principal scientist at a division of Proctor & Gamble. Liptßk is a process control and safety consultant.

## BUILDING CONSTRUCTION

TH15399-59396 1-56158-374-X
**The builder's guide to cold climates; details for design and construction.**
Lstiburek, Joseph W.
Taunton Press, 2000 335 p. $40.00 (pa)
This manual presents the best techniques for energy and resource efficient residential construction in the colder climates of North America. Lstiburek (a forensic engineer who heads Building Science Corp. in Massachusetts) presents information on the practicalities of choosing the right insulation, heating sys-

tems, keeping heat in, air and moisture barriers, exterior wood priming, avoiding cold corners and plates, sealing air barriers, considering drainage planes behind siding, avoiding insulation gaps, and flashing window openings. Contains many diagrams. Spiral wire binding.

TH42599-43494 0-87335-191-6
**Construction contract administration.**
Phillips, Charles S.
Soc. for Mining, Metal., & Expl., 1999 195 p. $69.00 (pa)
A guide and general reference for subjects that must be considered in production and site management of a construction contract. Part I deals with selection, production, and assembly of elements required for a construction contract. Part II reviews basics of a fair and practical contract administration system, using a sample bid package included in an appendix to illustrate various elements. Part III presents four case studies from construction projects to illustrate problem areas. Includes some 45 sample forms. The author is a registered professional engineer and a member of the Louisiana Engineering Society. Member price, $49.00.

TH43899-25613 0-13-695859-1
**Construction project management.**
Gould, Frederick E. and Nancy E. Joyce.
Prentice Hall, 2000 395 p. $64.00
The construction industry has shifted from narrowly scoped services to the forefront of the design and construction profession, according to Gould (Wentworth Institute of Technology) and Joyce (Massachusetts Institute of Technology). With the input of guest contributors, they address the human and technical management aspects that a project manager needs to understand: e.g. computer- integrated construction, the advantages of union vs. merit shops, project delivery methods, construction without disruption, costs, job site administration, and safety and health issues. Includes b&w photos; examples of construction failures, innovations, and trends; review questions and exercises; and a non-annotated list of construction project management web sites.

TH45399-32489 0-88173-322-9
**Facilities evaluation handbook; safety, fire protection and environmental compliance,** 2d ed.
Petrocelly, K. L. and Albert Thumann.
Fairmont Pr., 2000 294 p. $87.00
Focusing on the operational side of facilities management (as opposed to start up concerns) and addressed to plant managers, this work explores the proper conduct of inspections and evaluations of facilities in order to pinpoint problems in the areas maintenance, safety, energy efficiency, and environmental compliance. Petrocelly (a former plant manager) and Thumann (Executive Director of the Association of Energy Engineers) present a step-by-step process from inspection to corrective and provide information on relevant laws and regulations.

TH2031 99-87348 0-471-34816-3
**Ramsey/Sleeper architectural graphic standards,** 10th ed. (CD-ROM included)
Ramsey, Charles George.
John Wiley & Sons, 2000 1072 p.$225.00
This standard reference is cited in Books for College Libraries, 1st ed., but is inexplicably absent in Books for College Libaries, 3d ed.. This is the new edition of the architect's desktop reference that details the latest changes in regulations, standards, building methods, structural systems, and materials in use today. Each page is a self-contained data sheet, with visual representations of installation and design configurations and recommended performance specifications for all building systems and components from door frames, roof designs, and air ducts, to outdoor sports facilities and historic preservation. New to this edition are chapters on accessibility and security design, plus expanded coverage of seven new building systems, lighting designs, new materials, and environmental construction. The included CD-ROM contains a free dem-

onstration of the CD-ROM version of the volume, as well as the complete, unlockable version. Oversize: 9.50x11.75".

## MECHANICAL ENGINEERING & MACHINERY

TJ163 99-24111 0-88173-259-1
**Computerized building energy simulation handbook.**
Waltz, James P.
Fairmont Pr., 2000 211 p. $87.00
Waltz (President of Energy Resources Associates, Inc.) covers non-software aspects of using computerized building energy simulation. The focus of the presentation is on the data used to build a model, how to build a model, examining the results, diagnosing problems, and calibrating the model with real world actualities. The material exclusively deals with energy conservation models for existing buildings, ignoring building construction concerns.

TJ211 99-18285 0-521-56876-5
**Computational principles of mobile robotics.**
Dudek, Gregory and Michael Jenkin.
Cambridge U. Pr., 2000 280 p. $29.95 (pa)
Canadian computer scientists Dudek (McGill U.) and Jenkin (York U.) examine how existing autonomous robot systems have approached the three tasks of moving, sensing, and reasoning out their environment. They emphasize the computational methods of programming robotics rather than the methods for constructing the hardware. Intended for graduate and advanced undergraduates in robotics.

TJ213 99-40742 0-7923-8628-0
**Practical applications of fuzzy technologies.**
Title main entry. Ed. by Hans-J rgen Zimmermann. (Handbooks of fuzzy sets series; FSHS 6)
Kluwer Academic Pubs., 1999 667 p. $229.95
Covers applications of fuzzy technology, in sections on engineering and natural sciences, medicine, management, and behavioral, cognitive, and social sciences, with a final section on tools. Specific subjects include fuzzy control in the process industry, ecological modeling and data analysis, fuzzy logic and possibility theory in biomedical engineering, fuzzy sets methodologies in actuarial science, fuzzy set theory and applications in psychology, fuzzy sets in human factors and ergonomics, and software methodology and design tools. Further topics include strategic planning, image processing in medicine, and fuzzy and crisp approaches to production planning and scheduling. The author is involved in operations research at RWTH in Germany.

TJ213 99-169813 0-85296-943-0
**Symbolic methods in control system anaylsis and design.**
Title main entry. Ed. by Neil Munro. (IEE control engineering series; 56)
IEE, 1999 393 p. $95.00
Fifteen contributions provide an up-to-date treatment of issues in system modeling, system analysis, design and synthesis methods, and nonlinear systems. Coverage includes the application of multidimensional Laplace transforms to the modeling of nonlinear elements, a survey of customized computer algebra modeling programs for multibody dynamical systems, robust control of linear systems using a new linear programming approach, the development and testing of a new branch-and-bound algorithm fir global optimization using symbolic algebra techniques, and dynamic sliding mode control design using symbolic algebra tools.

TJ217 0-7506-3996-2
**Adaptive control systems.**
Title main entry. Ed. by Gang Feng and Rogelio Lozano.
Butterworth-Heinemann, 1999 335 p. $94.95
A handbook offering recent advances in techniques and algorithms of adaptive control for

both linear and nonlinear systems, including various robust techniques, performance enhancement techniques, techniques with less a priori knowledge; adaptive switching techniques, nonlinear adaptive control techniques, and intelligent adaptive techniques. To demonstrate the potential of the described technology, as well as advance the field of adaptive control as an area of study, techniques are shown to provide practical solutions to real-life problems. Contributors include mechanical, electrical and computer engineers from universities around the world.

TJ217 99-54346 0-8247-0327-8
**Robust control and filtering for time-delay systems.**
Mahmoud, Magdi S. (Control engineering; v.5)
Marcel Dekker, 2000 427 p. $165.00
This volume examines new approaches to stability, control design, stabilization, and filtering of electronics and computer systems. Mahmoud (electrical and computer engineering, Kuwait University) discusses basic practical topics such as finite capabilities of data processing and the inherent physical aspects and computational delays impacting system performance, as well as theoretical issues such as linear and nonlinear systems theory, matrix theory, and modern control theory. Throughout he defines concepts such as robustness, robust performance, and robust design, making this a useful text for advanced electrical, computer, and control engineering students, or as a reference for those practicing in these fields.

TJ230 99-58423 0-7918-0087-3
**Detailed mechanical design; a practical guide.**
Skakoon, James G.
ASME, 2000 216 p. $45.00
Skakoon sets out ideas he has learned in 20 years as a mechanical design engineer, speculating that most of them are practiced, if not consciously articulated, by any engineer who has worked in the field long enough. Focusing on the detail level but also examining high-level principles that apply to all mechanical design, he describes practices that improve the strength, robustness, function, user handing, and manufacturability of parts and assemblies. He also offers guidelines for selecting plastic, rubber, and metal materials.

TJ230 99-34061 0-471-24448-1
**Fundamentals of machine component design**, 3d ed. (CD-ROM included)
Juvinall, Robert C. and Kurt M. Marshek.
John Wiley & Sons, 1999 888 p. $104.95
Juvinall (mechanical engineering, U. of Michigan) and Marshek (mechanical engineering, U. of Texas-Austin) update their textbook for introductory courses and reference for practicing engineers. They assume readers have had basic courses in mechanics, strength of materials, and materials properties, though they review and extend the basic background before applying the fundamentals to specific machine components and finally to a complete machine. They do not mention dates for the earlier editions, but here add compute-and-plot sample problems, finite element analysis, Web site addresses, Web problems, material selection charts, and open-ended design problems. The CD contains representative sample problems with solutions, and MathCAD and HiQ problems.

TJ260 99-38340 0-8493-9581-X
**The CRC handbook of thermal engineering.**
Title main entry. Ed. by Frank Kreith. (The mechanical engineering handbook series)
CRC Pr., 2000 — p. $129.95
Unlike traditional handbooks of heat transfer, this book provides information on specific topics of current interest in a form that is accessible to the average engineer in industry. The first three sections contain background information on specific principles of engineering thermodynamics, fluid mechanics, and heat and mass transfer. The bulk of the book is

devoted to applications in thermal design and analysis, as well as to computer solutions of heat transfer and thermal engineering problems. The applications have been selected on the basis of their current relevance to the development of new products in fields such as food processing, energy conservation, and bioengineering. Kreith is ASME Legislative Fellow for Energy and Environment at the National Conference of State Legislatures.

TJ263 99-89300 0-8247-9787-6
**Heat exchanger design handbook.**
Kuppan, T. (Mechanical engineering; v.126)
Marcel Dekker, 2000 1119 p.$225.00
Kuppan, the Deputy Chief Mechanical Engineer at Indian Railways in Madras, covers all the important aspects of heat exchangers, including their design, modes of operation, and applications in process, power, petroleum, transport, air conditioning, refrigeration, cryogenics, heat recovery, and energy industries. Topics include standard construction; thermo-hydraulic funda- mentals and thermal design of HEs; algorithms and subalgorithms derived from heat transfer and geometry optimization modules; recent advances in plate exchanger design; global and national codes and standards; flow-induced vibration and mechanical design of shell-and-tube Hes; materials for HEs, corrosion behavior, and fabrication methods; quality assurance issues for HE manu- facture and non-destructive testing techniques; and problems such as corrosion and fouling.

TJ267 99-39156 0-7918-0093-8
**Centrifugal compressors; a strategy for aerodynamic design and analysis.**
Aungier, Ronald H.
ASME, 2000 315 p. $95.00
A mechanical engineer with a Pennsylvania turbomachinery company, Aungier describes his own system and strategy for designing and analyzing centrifugal compressor aerodynamics. To address the novice as well as the experienced in the field, he presents the basic thermodynamic and fluid dynamic principles, empirical models, and key numerical methods that form the basis of his methods. His strategy, or design practice, he found harder to describe because it involves a process of reasoning rather than following an established set of principles. He recognizes that his is only one of many possible methods, but makes no effort to compare or contrast his with any other.

TJ563 0-8206-0370-8
**Cooling water treatment; principles and practice.**
Frayne, Colin.
Chemical Pub. Co. Inc., 1999 486 p. $165.00
Through a practical and international approach, this reference addresses modern theory, practice, management, purchasing, and marketing of cooling water systems. Analyzes factors that may compromise and interfere with optimal functioning and management of such systems, and discusses treatments, including specialty chemicals, formulations, and pretreatment equipment. Also discusses elements influencing cooling water marketing efforts as well as purchasing decisions. Includes a glossary, and a small separate booklet summarizing charts and notes for field use. Frayne is an international water treatment consultant and small business owner.

TJ810 99-31349 1-56032-714-6
**Principles of solar engineering, 2d ed.**
Goswami, D. Yogi. et al.
Taylor & Francis Group, 2000 694 p. $95.00
Including coverage of the scientific fundamentals, this engineering text discusses the design and use of renewable energy sources including solar heating, solar cooling, passive solar applications, solar thermal power, photovoltaic power, solar detoxification, and biomass energy conversion. Also included is a chapter that details issues of solar power economics. Exercise problems are included at the end of every chapter.

TJ820 1-86058-206-0
Wind energy 1999; wind power comes of age; proceedings.
British Wind Energy Association Conference (21st: 1999: Cambridge, UK). Ed. by Peter Hinson.
Professional Engineering Pub., 2000 424 p. $238.00
Proceedings of the September 1999 conference which addressed the wind industry as the largest renewable energy resource. The 52 articles and 10 poster papers discuss wind power coming of age, onshore planning and policy, offshore and onshore development (PR and PA), electricity trading, markets and developments in Europe and beyond, research and technology, onshore planning and environment, present and future wind turbine manufacturing, operation and management, small wind systems, offshore confidence levels on resource and variability, offshore development (contract and construct), and development issues. Illustrated with b&w photographs, maps and diagrams. Lacks a subject index. Distributed by ASME. Oversize: 8.5x12".

TJ900 1-86058-180-3
Process pumps selection; a systems approach, 2d ed.
Davidson, John and Otto von Bertele.
Professional Engineering Pub., 2000 202 p. $112.00
Distilling the experience of a team at a large British chemical processing company for over 20 years, engineers Davidson and Bertele offer engineers and other working in the process and service sector industries, guidance on installing pumps, design, and codes of practice for pump users. The first edition appeared in 1986; the second irons out some inaccuracies and inconsistencies, particularly by first giving equations based on theoryùrather than those based on empirical experienceùin consistent units and only then in the mixed units used in actual practice. The text has also been reorganized to reduce repetition, and more illustrations have been added. Distributed in the US by ASME.

TJ1075 99-34016 0-88173-296-6
**Practical lubrication for industrial facilities.**
Bloch, Heinz P.
Fairmont Pr., 2000 612 p. $150.00
Retired reliability engineer Bloch assembles a wide array of data and ideas for mechanics, machinists, and lubrications specialists as well as his own colleagues, to help them understand what matters most in a lubricant and distinguish mere sales talk from relevant facts. He discusses such topics as the principles of lubrication; general purpose oils to inhibit rust and oxidation; hydraulic fluids; environmentally friendly, synthetic, and forest-product and paper machine lubricants; lubricating greases; pastes; waxes; tribosystems; oil mist lubrication systems; bearings; and handling and analyzing lubricants. He includes a glossary. US distribution is by Marcel Dekker.

TJ1185 99-52104 0-7506-7069-X
**Metal cutting,** 4th ed.
Trent, Edward M. and Paul K. Wright.
Butterworth-Heinemann, 2000 446 p. $75.00
Trent (University of Birmingham) and Wright (University of California, Berkeley) introduce the essential features of metal cutting, and the roles played by forces and stresses, heat, materials, and coolants and lubricants. The fourth edition adds four chapters that reflect the trend towards high speed machining of aerospace and other difficult-to-machine alloys, and the use of the computer to support analytical and computer modeling of cutting.

## ELECTRICAL ENGINEERING, ELECTRONICS, NUCLEAR ENGINEERING

TK1041 99-54218 0-8247-0336-7
**Distributed power generation; planning and evaluation.**
Willis, H. Lee and Walter G. Scott.. (Power

engineering; v.10)
Marcel Dekker, 2000 597 p. $195.00
Explains distributed power generation systems for residential, commercial, industrial, and electric utility applications, objectively evaluating capabilities and limitations, describing where and when they should be used, and assessing layout and design possibilities. Background discussions place distributed generators (DGs) in context, and later chapters examine major types of distributed generators, overview generation systems, and explore alternate power, energy storage systems, business factors, and planning and evaluation. Detailed case studies worked out in basic sensitivity or alternate scenario variations focus on the selection of DGs and DG performance. Willis is vice president of utility distribution systems at a power company. Scott was a pioneering engineer in the power industry.

TK1078 99-58345 0-89448-565-2
**Water chemistry and corrosion of nuclear power plant structural materials.**
Kritsky, V.G. (Russian materials monograph series) Am. Nuclear Society, 1999 313 p. $58.00
This is an English translation of a work written in Russian and first published in 1994. Coverage includes structural material corrosion in coolant circuits of nuclear power plants, simulation of corrosion processes, optimization of water chemistry at operating nuclear power plants, coolant tendency to deposit hardness salts on heat-transfer surfaces, and operational inspection of metallic components. Includes appendices on chemical compositions of steels, and solubility of various corrosion products under conditions simulating power unit water chemistry. The author is affiliated with the All Russian Research and Design Institute of Power Technique.

TK1087 99-47684 0-8493-2017-8
**Photovoltaic systems engineering.**
Messenger, Roger and Jerry Ventre.
CRC Pr., 2000 400 p. $89.95
To help fill the demand for engineers skilled in photovoltaic (PV) solar cell systems generated by global efforts to develop clean energy sources and by advances in thin film technology, the authors provide exposure to all aspects of PV system design: electrical, mechanical, economic, and aesthetic. With examples, photos, diagrams, tables, and equations, they explain what to do, how to do it, why, and trends for the "1 in 4.6837" students they hope will contribute to the field. Chapters include homework problems without an answer key. Appends data tables on the average daily irradiation for 20 selected cities worldwide and PV-related web sites. Messenger is in electrical engineering at Florida Atlantic U., Boca Raton; Ventre works at the Florida Solar Energy Center in Cocoa.

TK3001 0-7506-3740-4
**Radio spectrum conservation.**
Gosling, William.
Newnes, 2000 242 p. $47.95 (pa)
A companion to the author's Radio Antennas and Propagation, showing engineers how to deal with challenges of radio spectrum conservation. Describes the process of effective spectrum utilization, including examination of separation of transmission by space, time, frequency, and sequency. Reference is made to real-life examples to illustrate theory, and mathematics is kept to a minimum. The author teaches electronic engineering at the University of Bath, UK.

TK5101 99-44580 0-8493-3137-4
**The telecommunications handbook.**
Title main entry. Ed. by Kornel Terplan and Patricia Morreale.
CRC Pr., 2000 411 p. $99.95
This handbook provides basic principles and definitions, details advances in technology, outlines implementation techniques, and discusses the challenges faced by communications and networking specialists. The 30 papers address such topics as services on

broadband networks, signal processing and coding schemes, mobile and wireless networks, DSL technologies, digital video and multimedia, regulations and standards. The mix of policy makers, regulators, manufacturers, operating companies and academia offers a balanced picture of the current operating environment and emerging technologies against the historical background of the telecommunications industry.

TK5102 99-65087 0-12-466606-X
**A wavelet tour of signal processing,** 2d ed.
Mallat, St phane.
Academic Press, 1999 637 p. $59.95
The new edition of this graduate level textbook and reference on the principles and application of wavelets to signal processing includes updated coverage of optical flow calculation and video compression algorithms, image models with bounded variation functions, and Bayes and Minimax theories for signal estimation, as well as extensive rewriting and new illustrations and problems. Algorithms and numerical examples are implemented in Wavelab, a Matlab toolbox available over the Internet. Intuitive understanding is emphasized while providing the mathematical foundations and descriptions of fast algorithms.

TK5103 00-24959 0-8247-0363-4
**Entropy and information optics.**
Yu, Francis T. S. (Optical engineering; v.68)
Marcel Dekker, 2000 338 p. $150.00
With an eye to developing faster and more efficient optical communication and information processing systems, this text lucidly explores the relationship between entropy and information optics. Yu (electrical engineering, Pennsylvania State U.) introduces information transmission with definitions of information from the viewpoints of pure mathematics, physics, and communication engineering; and the concept of information theory as a branch of probability theory. Subsequent chapters focus on such topics as: diffraction and signal analysis, optical spatial channel and encoding principles, exorcising Maxwell's demon, coherence theory of optics, computing with optics, and communicating with fiber optics. Equations and illustrations illuminate the text. Appends material on linear difference equations, solutions of two equations in the text, and the probability energy distribution.

TK5103 99-27547 1-56720-329-9
**Laser satellite communication; the third generation.**
Mott, William H. and Robert B. Sheldon.
Quorum Books, 2000 315 p. $69.50
Looks at the relationship between laser satellite communications and business and regulation aspects. After reviewing the states of the satellite and telecommunications industries, authors offer one concept for realizing the promises of the laser satellite communication vision. Discusses the human telecommunications enterprise, markets, regulatory issues, satellite telecommunication industries, and laser satellite communications. Mott previously taught at the British Royal Military College of Science. Sheldon is associate professor of physics at the University of Alabama.

TK5105 99-43077 1-57610-430-3
**Creating and implementing virtual private networks.**
Wilson, Casey and Peter Doak.
Coriolis Group Books, 1999 558 p. $39.99 (pa)
A guide for network administrators, MIS managers, information technologists, and technicians with experience in networking. Shows how to create and maintain a Virtual Private Network (VPN) that allows companies to send data across the Internet through an encrypted "tunnel." Screenshots and step-by-step examples are used to further explain concepts. Wilson has researched design and installation of data interfaces. Doak is a professor of electronics and computer systems technology at the College of the Mainland in Texas.

TK5105 99-38061 0-7668-1485-8
**Designing interactive Web sites.**

Mohler, James L. and Jon M. Duff.
Delmar Pub., 2000 359 p. $40.95 (pa)
Provides an in-depth look at fundamentals of Web site design and site construction, using real-world examples and step-by-step instructions. Coverage includes Web site coding, JavaScript, construction of tables, and how other authoring programs relate to Web design. Pays special attention to optimizing graphics in interactive Web sites through animation and multimedia. Includes chapter review questions.

TK5105 99-38584 0-8493-9200-4
**Intranet performance management.**
Terplan, Kornel. (The CRC Press advanced and emerging communications technologies series)
CRC Pr., 2000 316 p. $69.95
Terplan describes how network managers and system administrators can use Internet technology in the more secure environment of an intranet, emphasizing performance management and mentioning other management functions without detailing them. After overviews of the technology, he covers content authoring and management, log file analysis, traffic measurements, web server and browser management, load balancing and optimal distribution, look-through measurements, and trends.

TK5105 99-44156 0-13-011518-5
**Packet video communications over ATM networks.**
Rao, K. R. and Z. S. Bojkovic.
Prentice Hall, 2000 420 p. $65.00
Brings together practical and theoretical information professionals need to design ATM-based video networks for maximum performance, reliability, and flexibility. First introduces advantages, applications, and challenges of networked packet video, then addresses leading approaches to increasing the scalability of ATM-based video networks, including data partitioning, SNR scalability, and spatial, temporal, and hybrid scalability. Rao teaches electrical engineering at the University of Texas-Arlington. Bojkovic is on the traffic and transport engineering faculty at the University of Belgrade, Yugoslavia.

TK5105 99-58362 0-201-43317-6
**The process of network security; designing and managing a safe network.**
Wadlow, Thomas A.
Addison-Wesley, 2000 283 p. $34.95 (pa)
Targeting this work at computer/network security administrator at a reasonably large organization (described as an organization that finds it necessary to have a security team), Wadlow (the cofounder of a company specializing in Internet security) covers such topics as the nature of computer attacks, setting security goals, creating security network designs, team building, fortifying network components, implementing personnel security, monitoring networks, discovering and handling attacks, and dealing with law enforcement authorities.

TK5105 99-58873 0-13-026497-0
**QOS in wide area networks.**
Black, Uyless.
Prentice Hall, 2000 343 p. $48.00
A general survey of how wide area networks are being deployed to provide quality of service (QOS) to business customers. QOS implementation in a variety of environments is discussed and the prioritization of data traffic using QOS capable devices is explored. Telecommunications consultant Black assumes a background in voice and data communication, Frame Relay, ATM networks, and the Internet protocol suite.

TK5105 98-48813 1-55558-210-9
**Web security.** (CD-ROM included)
Tiwana, Amrit.
Digital Pr., 1999 425 p. $39.95 (pa)
Tiwana, who writes a monthly column for Information Technology, offers a guide for systems administrators, security consultants, and others concerned about the security of web sites. He explains how to create and execute a comprehensive strategy, identify and eliminate

potential vulnerabilities, frame a security policy, and test existing security measures. The CD-ROM contains security and weakness scanners, log analysis tools, firewalls, and other software.

TK6570 99-54639 1-58053-009-5
**Handbook of mobile radio networks.**
Tabbane, Sami. (Artech House mobile communications library)
Artech House, 2000 619 p. $93.00
The demand for mobile radio communications systems continues to exceed availability. The introduction explains the history and evolution of mobile services and equipment since Marconi's 1898 trans- Atlantic radio transmission; differences between fixed and mobile networks; management of the radio spectrum, and its standardization by international, European, and US organizations. The first section covers features characterizing the basic techniques, concepts, resource management, and problems of terrestrial mobile radio systems. Later chapters present five types of current systems and several digital system standards. The final chapter looks ahead to wireless ATM and "software radio." Includes diagrams of channel structure and network configurations. The author is based at the cole Sup rieure des Communications de Tunis engineering school.

TK6679 99-54468 0-13-017360-6
**The essential guide to digital set-top boxes and interactive TV.**
O'Driscoll, Gerard. (Essential guide series)
Prentice Hall, 1999 295 p. $34.99 (pa)
The author explores the various industry initiatives and standard bodies that are defining open set-top box technologies, describes the operating systems and middleware products available, and looks at the servers and technologies that are needed to support broadband Internet, intranet and TV-centric applications.

TK7868 99-224069 0-7506-3545-2
**Soldering in electronics assembly,** 2d ed.
Judd, Mike and Keith Brindley.
Newnes, 1999 369 p. $90.00
Updating the 1992 edition to cover the latest technical developments and trends in the field of electronics assembly, two electronic technology experts survey the state-of-the-art in soldering components onto a printed circuit board. Their ten rules of machine soldering encapsulate the demands of soldering processes and electronic assemblies. Among the more conventional appendices on soldering problems, solutions, safety, systems, processes, and machines, is a humorous "guide for the misguided" on blaming wave soldering machines for difficulties. Lists trade publications and journals, institutions and associations, and standards organizations and bodies. Illustrated with b&w photos of equipment and graphed machine temperature profiles.

TK7871 0-85296-763-2
**Advanced electromagnetic analysis of passive and active planar structures.**
Rozzi, Tullio and Marco Farina. (IEE electromagnetic waves series; 46)
IEE, 1999 252 p. $79.00
Rozzi and Farina (electromagnetics, U. of Ancona, Italy) address the challenges involved in combining the fields of electromagnetics and complex circuit modeling that have arisen with the emergence of very high-speed digital circuits. Specifically, they examine the analytical techniques encompassing the linear modeling of passive and active structures, discussing passive and active planar waveguides on multilayer substrates, with both 2D and 3D analysis. Distributed by INSPEC.

TK7871 99-44934 0-7506-7194-7
**CMOS IC layout; concepts, methodologies, and tools.** (CD-ROM included)
Newnes, 2000 261 p. $49.95 (pa)
A manual for computer design engineers explaining the integrated circuit (IC) design techniques using complementary metal oxide semiconductors (CMOS). Apparently written for those who have a fairly advanced knowledge of the CAD field, ten chapters cover such

information as schematic fundamentals, layout design, building block interconnect, techniques to address electrical characteristics, process constraints, and uncertain environments. The CD-ROM contains color drawings of the circuit examples contained in the book, some presentations from marketing managers addressing methodologies and tools, and an editing program that allows readers to practice on the examples presented.

TK7871 99-17759 0-7803-3428-0
**Plane-wave theory of time-domain fields; near-field scanning applications.**
Hansen, Thorkild and Arthur D. Yaghjian. (IEEE Press series on electromagnetic wave theory)
IEEE Press, 1999 378 p. $99.95
Provides a framework for the formulation and solution of numerous problems involving the radiation, reception, propagation, and scattering of electromagnetic and acoustic waves. Combines straightforward derivations with in-depth expositions of prerequisite material, covering fundamental theorems of electromagnetics and acoustics, time-domain and frequency-domain fields, application of plane wave theory to static electric and magnetic fields, and wave phenomena encountered only in the time domain. Hansen is affiliated with Schlumberger-Doll Research. Yaghjian is a visiting scientist at the Air Force Research Laboratory at Hanscom Air Force Base.

TK7871 0-08-043419-3
**Reliability of electron devices, failure physics and analysis; proceedings.**
European Symposium on [title] (10th: 1999: Bordeaux, France) Ed. by N. Labat and A. Touboul. (Microelectronics Reliability; v.39, nos.6-7)
Pergamon Pr., 1999 450 p. $91.00 (pa)
Papers from an October 1999 symposium present recent developments and future trends in the quality and reliability of materials, devices, and circuits for microelectronics, addressing all aspects of specification, technology and manufacturing, test, control, and analysis. Papers are arranged in sections on quality and reliability, modeling of failure mechanisms, electron and optical beam testing, advanced failure analysis techniques, reliability of compound semiconductors, assemblies and microsystems, and power devices. For designers, founders, and users specializing in reliability of materials and devices for microelectronics.

TK7871 99-054349 0-8194-3506-6
**Semiconductors and electronic materials.**
Title main entry. Ed. by Andreas Mandelis and Peter Hess. (Progress in photothermal and photoacoustic science and technology; v.4; SPIE v.PM74)
SPIE, 2000 35 p. $58.00 (pa)
Offers a review of leading research activities in several sub-fields of photoacoustic and photothermal science and technology applications to semiconductors and electronic materials. Coverage includes applications of novel photoacoustic and photothermal techniques to traditional semiconductor materials and devices, and applications of conventional techniques to novel materials and devices. Mandelis is affiliated with the Photoacoustic and Optoelectronic Diagnostics Laboratories Department of Mechanical and Industrial Engineering at the University of Toronto, Canada. Hess is affiliated with the University of Heidelberg's Institute of Physical Chemistry.

TK7881 0-240-80383-3
**5.1 surround sound; up and running.**
Holman, Tomlinson.
Focal Press, 2000 273 p. $29.95 (pa)
Holman (University of Southern California) acquaints recording engineers with the specifics of the five channel low frequency enhancement audio environment, covering monitoring systems, loudspeakers, room acoustics, bass management, mixing, microphone and recording techniques, and delivery formats.

TK7881 98-42607 0-240-51528-5
**Audio engineer's reference book,** 2d ed.
Title main entry. Ed. by Michael Talbot-Smith.
Focal Press, 1999 653 p. $130.00
The 43 contributions are arranged into seven chapters: basic principles, acoustics and acoustic devices, recording and reproduction, digital equipment, studio and their facilities, distribution of audio signals, and miscellaneous topics. The second edition reflects new developments in digital audio and transmission technology.

TK7882 99-043495 0-8493-2278-2
**Supervised and unsupervised pattern recognition; feature extraction and computational intelligence.**
Micheli-Tzanakou, Evangelia. (Industrial electronics series)
CRC Pr., 2000 371 p. $99.95
Describes the application of supervised and unsupervised pattern recognition schemes to the classification of various types of waveforms and images. Micheli-Tzanakou (biomedical engineering, (Rutgers U.) treats experimental and theoretical contributions equally and examines interchanges between the two. The chapters span a variety of problems in signal and image processing, using mainly neural networks for classification and template matching. Much of the work was co-authored with students of Micheli-Tzanakou.

## MOTOR VEHICLES, AERONAUTICS, ASTRONAUTICS

TL26998-53284 1-56091-915-9
**Brake design and safety,** 2d ed.
Limpert, Rudolf.
Soc./ Automotive Engin'rs, 1999 525 p. $89.00
Provides a systems approach to designing safer brakes for cars, light trucks, tractor-trailers, and heavy equipment. All necessary analytical tools to study and determine involvement of brakes in accidents are covered, as well as essential concepts, guidelines, and design checks. This second edition is updated to cover newer brake technology, including anti-lock braking systems, braking by wire, and the mechanical and thermal analysis of disk brakes. For those involved in brake design, performance analysis, and accident reconstruction. The author is a consulting engineer on vehicles and traffic safety.

TL27297-80778 0-7803-4398-0
**Power electronics in transportation; proceedings.**
IEEE Workshop on Power Electronics in Transportation (1998: Dearborn, Michigan)
IEEE Press, 1998 116 p. $120.00 (pa)
Contains papers from an October 1998 workshop on electric drives for electric vehicles (EVs) and hybrid electric vehicles (HEVs), fuel cell systems and vehicles, and converters and inverters for EVs and HEVs. Topics include a sensorless direct torque control technique for permanent magnet synchronous motors, power electronics for propulsion and energy charging of electric vehicles by high slip linear induction machines, effect of switching frequency of soft switched inverters on electric vehicle systems, and multilevel inverters for EV applications. A section on special topics looks at soft commuted direct current motors, and a prime mover for HEV propulsion systems. Lacks a subject index.

## MINING ENGINEERING

TN69799-47696 0-306-46180-3
**Advanced science and technology of sintering; proceedings.**
Title main entry. Ed. by Biljana D. Stojanovic.
Kluwer Academic Pubs., 1999 662 p. $195.00
Ninety-two papers selected from the proceedings of the Ninth World Round Table Conference on Sintering (a branch of materials science) held in Belgrade, Yugoslavia, September 1998. The work is composed of seven sections devoted to fundamentals, nanostructured powders, mechanical activation, sintering of oxide systems, electronic

ceramics, non-oxide materials, and sintering of metal powders. The topics range from the basic uses of sintering to sintered materials of advanced technology used in a variety of research and industrial applications. Special attention is given to new modeling and simulation of processes, development of physical theories, and alternative processes to sintering.

TP150 99-51940 0-86587-686-X
**Process safety management/risk management planning auditing handbook; a checklist approach.**
Einolf, David M. and Luverna K. Menghini.
Government Institutes Inc., 1999 337 p.
$79.00 (pa)
A field guide to compliance with federal regulations that require safety auditing of hazardous materials. After an explanation of the standards of the Federal Code of Regulations and advice on how to answer questions formulated by the Occupational and Safety Health Administration and the Environmental Protection Agency, auditing guidelines are set forth with an emphasis on documentation.

TP290 0-85295-723-3
**Explosion safety in hazardous; proceedings.**
International Conference on Explosion Safety in Hazardous Areas (1999: London, UK).
(Conference publication; 469)
IEE, 1999 101 p. $70.00 (pa)
Contains papers from a November 1999 conference organized by the Power Division of the Institution of Electrical Engineers, examining areas such as the legal system for explosion protection in the European Union, European standards on explosion prevention, dust classification, and the introduction of the three-zone classification system into the US National Electrical Code. Other subjects are the safe use of optics in potentially explosive atmospheres, legislation and standards in Japan, and safety implications of electrical transients in hazardous areas. Lacks a subject index.

## MANUFACTURES

TS155 99-59180 0-8412-3635-6
**ISO 14001; a practical approach.**
Schoffman, Alan and Allan M. Tordini.
American Chemical Society, 2000 226p. $34.95
Principals of an environmental management consulting firm offer a roadmap to the process of developing an environmental management system.
They present tools that industry professionals, environmental managers, or officers of companies use to plan, prepare, understand and implement a system that conforms to the ISO 14001 guidelines. They include case studies of medium and small companies. Distributed in the US by Oxford University Press.

TS156 99-57262 0-87389-472-3
**The desk reference of statistical quality methods.**
Crossley, Mark L.
ASQ Quality Press, 2000 451 p. $60.00
This reference guide illustrates how to execute forty essential statistical improvement methods frequently used in the quality sciences, such as acceptance sampling for attributes, discrete distributions, multivariate charts, and Weibull analysis. Arranged alphabetically, each entry provides computational steps, application comments, and a brief presentation on how to use the tool or technique. An appendix contains distribution and value tables.

TS156 99-37916 0-13-856808-1
**Successful internal auditing to ISO 9000.**
Taormina, Tom.
Prentice Hall, 2000 307 p. $39.00 (pa)
Demonstrates how to perform nonconfrontational audits that don't just check paperwork, but contribute to ongoing quality improvement throughout the enterprise. Brings together resources internal quality auditors need in nearly any manufacturing or service organization, and walks through the entire audit process, from organizing the audit team to taking corrective action. Includes

checklists, forms, and templates, exercises for use in self-study courses, and extensive tips and anecdotes from real audits. The author is a Certified Quality Manager and Senior Member of the American Society for Quality.

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